

Vol. X, No. 1

September, 1940

JOURNAL
OF THE
ANNAMALAI UNIVERSITY

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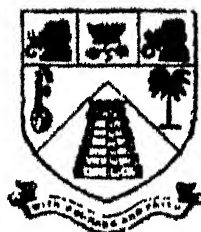
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1940

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VOL. X

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No. 1

The Rasa Doctrine and the Concept of Suggestion in Hindu Aesthetics

By

P. S. NAIDU,
(*Annamalai University*)

I

The Rasa doctrine is still a sealed book to thinkers of the present day. Sanskritists who have so far attempted to analyse the doctrine approached the problem without proper psychological training, and so their efforts have been fruitless. And psychologists who are eminently fitted, by their training and research experience, to tackle baffling problems in aesthetics have not turned their attention to the study of Rasa either through disinclination, or through lack of the necessary linguistic equipment. This state of affairs is lamentable. I shall, therefore, indicate very briefly in this part of the paper the lines along which a fruitful approach may be made to the ancient Hindu aesthetic doctrine of Rasa.

That the Rasa theory rests upon a very carefully conceived psychological foundation goes without saying. The propounders of 'Rasa' had deep and clear insight into the nature of the human mind, its structure and function, and also into its mysterious ways. Not only our ancient aesthetic thinkers but also metaphysicians, religious teachers and political theorists had intuitive insight into the psychology of the human mind.

I have attempted to show in a recent¹ paper how the Gīta teaching is based on sound psychological principles very similar to those formulated by the most advanced school of psychology in the West. The Upanishads, the Darśanas, and the various Śāstras and Purāṇas contain a mass of psychological data which will amply repay the labour of scientific research. The information culled from these sources should be critically treated and reduced to a system. The results of the little systematic work that was done by the ancients are lost to us mainly through the fault of our scholars. In the field of aesthetics, successive generations of scholars came to be preoccupied with literary criticism, rhetoric and poetics, and lost touch with the vital psychological foundations of the subjects of their study and research. And modern students of literary criticism, being utter strangers to psychology, tend to distort the foundations of the ancient doctrine in order to establish startlingly novel conclusions of their own. The effect of this state of affairs is that a reconstruction of the original psychological foundations of the aesthetic doctrine has become exceedingly difficult, and demands an unusually strenuous effort of creative imagination.

That the present is an exceptionally favourable moment for the task we have set to ourselves is indicated by a significant event in the history of European Psychology. The cult of intellectualism, which reigned supreme over all departments of knowledge in the West, dominated over psychology too, and for a long time associationism was the universally accepted principle of explanation. But association psychology or mosaic psychology, with its over-emphasis on the cognitive aspect of the mind, is incapable of dealing with feelings and emotions. And a psychologist of the last century would have failed utterly had he attempted to deal with our Rasa doctrine, for Rasa is all feeling and emotion. The year 1908 witnessed a great revolution in western psychology, as great as the Copernican or the Einsteinian revolution in mathematical physics. William McDougall published in that year his epoch making work on 'Social Psychology.' The book is, in fact, a treatise on general psychology dealing with the fundamental structure of the human mind, and it reveals the utter futility and barrenness of the systems of psychology that were then in existence. The founder and leader of the new school, known as the Hormic or Purposivistic school, developed, within three decades the hormic doctrine to a fairly high degree of perfection. And at his death, about eighteen months ago, the great man left to the cultured world in general, and to the world of psychology in particular, an imperishable and priceless legacy in the shape of a system of psychology

1. Naidu, P. S. 'The Horme in Purposivistic Psychology and Karma in The Gīta—A comparative study' this journal, vol. vi, 1937.

which alone is capable of dealing with the active and feeling side of human nature. McDougall published many voluminous works, and among these we may single out three books for special mention, *Social Psychology*, *An Outline of Psychology* and *The Energies of Man*. These contain the various aspects of the hormic theory which I propose to employ for giving a psychological orientation to the Rasa doctrine.

Unlike the behaviouristic, mechanistic or materialistic school of psychology, the hormic or purposivistic school assumes the existence of mind. (This proposition may sound exceedingly naive to our ears, but in the West it is still the subject of great controversy). Unlike the metaphysician the hormic psychologist takes a definitely scientific attitude towards mind. Mind is real in the sense in which the election is real to the physicist, and the gene to the biologist. This mind has a structure, the elements of which are inherited. We are now familiar with the biological (and in particular with the Mendelian) laws of heredity so far as the body of the organism is concerned. Laws almost identical with these are believed to be operative in the mental realm too. It may be mentioned, in passing, that McDougall is a dualist, animist and inter-actionist in his views on psycho-physical problems. He believes that in the present state of knowledge mental energy and physical energy should be conceived as two different but mutually interacting forces.

The inherited mental structure reveals, on a careful analysis, certain fixed and universal elements, common to all the members of a given species. Comparative psychology is pressed into our service here, and yields a very rich result. The behaviourist also makes use of the knowledge drawn from the realm of animal life, but the credit of putting that knowledge to good purpose in the field of human psychology goes to the hormic psychologist. The inherited elements of structure have been called *instincts*. They are according to 'The Energies of Man,' McDougall's latest work on general psychology, about twenty in number—food seeking, disgust, sex, fear, curiosity, protectivity, gregariousness, self-assertion, submission, anger, appeal, construction, acquisitiveness, laughter, comfort and rest seeking (or sleep), and a "group of very simple propensities serving bodily needs, such as coughing, sneezing, breathing and evacuation. (The term instinct was used by McDougall in his earlier work, but as it became the storm centre of fierce controversy he replaced it by the less unambiguous expression 'propensity' in his later works). '..... there is no room for doubt that such inborn propensities are the very foundations of all our mental life, that they provide the driving forces, the hormic energies, manifested in all our activities from the simplest to the most complex.' In an oft quoted passage the great leader of the hormic school says, 'We may say, then, that directly

or indirectly the instincts are the prime movers of all human activity ; by the conative or impulse force of some instinct (or of some habit derived from an instinct), every train of thought, however cold and passionless it may seem is borne along towards its end, and every bodily activity is initiated and sustained. The instinctive impulses determine the ends of all activities and supply the driving power by which all mental activities are sustained ; and all the complex intellectual apparatus of the most highly developed mind is but a means towards these ends, is but the instrument by which these impulses seek their satisfaction, while pleasure and pain do but serve to guide them in their choice of the means."

'Take away these instinctive dispositions with their powerful impulses, and the organism would become incapable of activity of any kind; it would lie inert and motionless like a wonderful clockwork whose main-spring had been removed or a steam-engine whose fires had been drawn. These impulses are the mental forces that maintain and shape all the life of individuals and societies, and in them we are confronted with the central mystery of life and mind and will.'"

At first sight the hormic view of the native endowment of the human mind and the Rasa view may appear to be identical, but there is a profound difference between the two. To the hormic psychologist the structure of the mind, as he conceives it, is essentially a conceptual hypothesis. In the physical and biological sciences the so called laws, theories and even some of the facts are merely mental constructs or empirical generalisations, based no doubt on experimental data, but yet partaking of the nature of working hypothesis, pragmatically true for the present, but subject to revision when new facts come to light. 'The structure of the mind' says McDougall 'is a conceptual system that we have to build up by inference' To the Hindu aesthetic thinker, on the other hand, the rasa view of the mind, with its metaphysical background embodied in the concept of Vasana, is an a priori and speculative principle from which deductions have to be made for explaining our concrete experience. This difference between the empirical and the a prioristic attitudes of contemporary Western psychology and ancient Hindu aesthetics should be constantly kept in view, for, my chief aim is to reconstruct the rasa doctrine on scientific foundations.

The elements of the innate mental structure, then, are the various propensities, and these propensities have been investigated exhaustively by comparative psychology. The results of these scientific investigations may be summed up as follows :

Each instinctual element (or *propensity* to use the revised terminology) reveals three aspects in its structural as well as functional side.

It is excited by certain 'objects,' and when so excited gives rise to a specific mental state called an emotion. The final result of the excitation is a course of action which, from the biological point of view, may be said to be beneficial to the organism, and from the psychological, as yielding satisfaction to the individual concerned. The three aspects may be called the cognitive, the affective and the conative aspects of the 'instinct' or 'propensity'. Taking the 'fear' propensity as an example, it has been experimentally demonstrated that three fundamental excitants of 'fear' in the mind of the child are, sudden loud rasping noise, sudden loss of support and physical pain. These excitants generate the emotion of fear, and the child cries out. In the case of the adult, the 'objects' or 'excitants' of fear may be many and varied due to the process of conditioning. Experience has taught the adult to be afraid of many things and persons. But whatever the excitant, whatever the effects of conditioning on the cognitive aspect of the native structure of the propensity, the emotion generated is identical with the primitive unalloyed fear of the cave man. The emotion finally results in the course of action appropriate to the structure, namely, flight from the 'object' of fear. In the adult, the process of conditioning modifies the last or the conative aspect too. One man may run away from the 'object,' while another may stand up to it and make it run away. So, the only constant element, the element which may be used for identification, is the central or the emotional element in the instinctual structure of mind.

Taking the central or emotional part, we find that each emotion has its own characteristic expression composed of muscular movements and glandular discharges, for the most part under the control of the autonomic system. In fear, there is pallor of the face, dryness of the mouth, horripilation, perspiration, trembling, loss of speech, crouching, fixed gaze, increase in the activity of the adrenal gland, discharge of the stored up glycogen by the liver into the blood stream, rushing up of extra energy to the muscles of the leg, hand and jaw, cessation of digestive processes, etc. All these movements dovetail snugly into the final activity of the organism. We may represent the facts mentioned so far in the diagram on the next page.

All the innate mental elements listed above have the same structure as that of 'fear.' Certain modifications, however, set in as the result of experience. The human mind is not a static thing. It is a living, growing, developing, dynamic entity. The mental structure which the baby inherits undergoes considerable modifications as he grows up and gathers experience. Just as chemical elements get organised into molecules, molecules into living cells, and these into living organisms, so the propensities get organised into sentiments, concrete and abstract, and the sentiments into a scale of values with a dominant

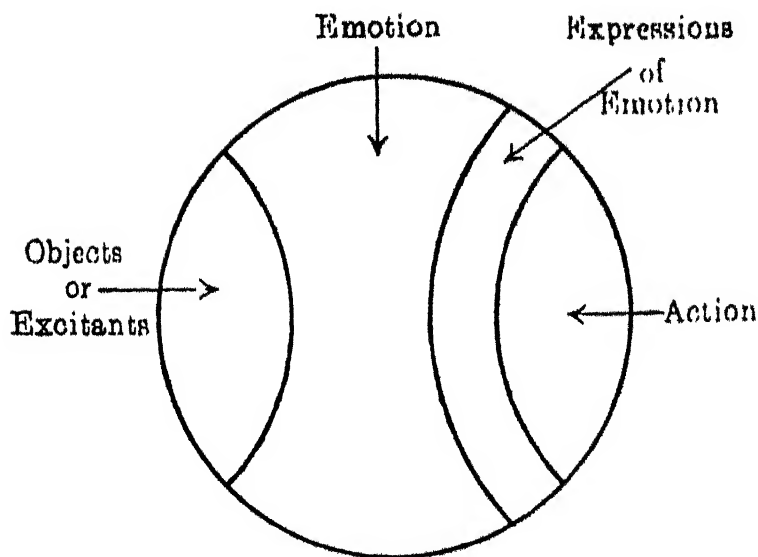


Fig. I.

or master sentiment.² Let us consider the sentiment of 'hatred'! Hatred, when it is directed towards a person, is a concrete sentiment. It is composed of three elementary propensities, fear, anger and disgust, which are organised round a person. When two or more elementary propensities enter into union to generate a sentiment we should investigate the changes that take place in the three aspects of their structure, the cognitive, the emotional and the conative aspects. This problem which I have dealt with in detail in a recent paper,³ has a special bearing on aesthetic theory, yet it has been relegated to a subordinate place by McDougall, and completely neglected by our aesthetic thinkers.

The method of tripartite analysis which has been so successful and useful in the lower level of elementary propensities, should be applied to sentiments too. In hatred as a concrete sentiment we notice that on the cognitive side the three different fields of his behaviour get merged into his whole personality, and that the man as such, or even the thought of the man, now serves as the excitant of the complex sentiment of 'hatred.' With regard to the central affective or emotional side there is a perfect blend of the three elementary emotions into the

2. This analogy should not be pushed too far. An injudicious use of it will lead us back to the discarded faculty psychology.

3. Naidu, P. S., 'A Reconstruction of the Hormic Theory of Sentiments,' A.U.J., vol. viii, 1939.

sentiment of 'hatred.' And on the conative side, once again we find a close organisation. Our action is a blend of activities appropriate to disgust, anger and fear. It would conduce to clear thinking if we could secure different sets of terms to denote the three aspects of the instinctual structure and of the sentimentative structure respectively. At present, the lack of such clearly differentiated terminology is responsible for a good deal of confusion in aesthetic theory.

The evolution of mental structure does not stop at the level of concrete sentiments. It proceeds to higher levels of abstract sentiments where the centres of organisation are ideas instead of objects and persons. Love, loyalty, patriotism, justice, etc., are thus generated in the mind of the cultured persons. These sentiments, both concrete and abstract, are arranged according to a regularly graded descending scale of values with some supreme sentiment at the top of the scale. For the Westerner at the present stage of culture, the self regarding sentiment is the master sentiment, while for us The Brahman-regarding sentiment has been from time immemorial, and should continue to be the master sentiment. We should allow no other sentiment, to displace it from its high eminence.

When a person succeeds in building up a permanent scale of values, wherein each sentiment has its own fixed place, with the same dominant sentiment always occupying the top place, then he or she has achieved real culture, and real character. As with individuals so with nations. National culture is merely the way in which the national mind is organised. And as culture must express itself in cultural 'objects' such as poetry, music, painting, architecture, etc., it is possible for us to reconstruct the foundations of national culture through an analysis of these objects. But these considerations will lead us away from our main theme. And we must now turn to the psychological foundations of Rasa.⁴

II

In this, the second part of the paper, I shall attempt to give a psychological orientation to the rasa theory. Utter confusion faces us when we take a glimpse of the rasa doctrine, for we discover at once that the rasa elements belong to different levels of mental organisation or culture. Bhayānaka, bīḥaṭṣa, adbhuta and raudra belong to the primitive emotional level of mental structure; hāsyā and karuṇa and vīra to the higher sentimental level, while śṛṅgāra is very near the top of the scale of sentiment values. But the source of confusion is deeper still. Dr. De, in speaking of the treatment of the rasa

doctrine in the Nāṭya Śāstra points out that Bharata's doctrine is tantalisingly simple, 'but he (Bharata) is not clear as to what this process of evolution exactly is.' 'As to what relation these elements bear to rasa, and how this state of relish is brought about, Bharata lays down in a cryptic formula :

Vibhāva-nubhāva-vyabhicāri-samyogad-rasa-niṣpattih-

Bharata's own explanation.....that just as a beverage is accomplished through various seasoned articles and herbs, so the permanent mood (the sthāyi-bhāva) reinforced by various bhāvas, attains the state of rasa, and it is so-called because its essence consists in its taste or relish..... He also explains that the sthāyi-bhāva is the basis of rasa because it attains as it were mastery or sovereignty among forty-nine different bhāvas mentioned by himself.⁵ Dr. De rightly remarks that this theory is vague, and the vagueness and confusion increase a hundred fold when we consider the accounts of bhava, vibhāva, anubhava, sañcāri bhava, vyabhicāri bhava, etc., given by the writers on Hindu Aesthetics. The relationship that they establish between these elements of experience is so confusing that one has to turn away from their unscientific and unanalytic discourses in utter despair.

The simple psychological analysis outlined in the first part of the paper, will, if applied to our aesthetic doctrine, introduce system into the elements, just as loosely scattered and disorganised iron filings get organised when placed in a magnetic field. It must be stated at the outset that the peculiar mental experience indicated by rasa is the result of an advanced stage of evolution. It is highly complex. We should therefore go down to the fundamental elements and begin our analyses at the lowest stage.

Hindu psychology too starts with the innate endowment of the human mind. The concept of vasana indicates clearly that our thinkers believed that the fundamental elements of mental structure were inherited. But they did not grasp the distinction between structure and function. We should emphasise the distinction, and then start with elements which are really fundamental and primitive. The sthāyi bhāvas are undoubtedly the most elementary and fundamental units of mental structure, but we can accept the usual alamkara list only with certain modifications.

The sthāyi bhavas are the propensities of Western psychology, and of these krodha, bhaya, jugupsa, vismaya may be accepted as being really elemental. Hāsyā should be interpreted as laughter, and rati

as simple sex passion (or lust in the sense in which it is used in German). Śoka is not elemental, and so it should be replaced by tender emotion which is the most fundamental component of the complex texture of śoka. Uṣṣāha should be replaced by self-assertion. With these modifications we may accept the foundation of the rasa theory. It should, however, be noted that contemporary psychology recognises several other elements, but we may confine ourselves to the ancient Hindu list, since we want to build up a psychological structure suitable for the rasa doctrine. It is interesting to note that McDougall recognised only the following seven 'instincts' in his 'Social psychology.'

<i>Instinct</i>	<i>Emotion</i>
Flight	Fear
Repulsion	Disgust
Curiosity	Wonder
Pugnacity	Anger
Self Assertion	Elation
Submission	Subjection
Parental Instinct	Tender Emotion

The instinct of reproduction with its emotion 'lust' was added to this list along with a few other minor instincts. There is remarkable resemblance between the two lists—the Hindu and the McDougallian—and as the latter is based on experimental data, we need have no hesitation in accepting the scheme suggested above as a satisfactory foundation for our purposes.

Having fixed the number and nature of the fundamental elements—the sthāyi bhāvas—we should proceed next to analyse each sthāyi bhava. Careful experimental investigation and inductive analyses have revealed the existence of three aspects in each element, the cognitive, the affective or emotional and the conative. Each sthāyi bhāva is aroused to activity by the perception of certain stimuli, which generate a specific emotion and lead to a characteristic response. At this stage we have to reintroduce fig. I, and attempt to see how and where the various vibhāvas, anubhāvas, sañcāri and vybhichāri bhāvas fit into the scheme.

Each sthāyi-bhāva (or primitive structural unit of mental structure as presented in our modified scheme above) is excited by its specific vibhāvas. As the result of this excitation there arises an emotion whose expressions constitute the anubhavas and sattvikabhavas. When an emotion is excited, it is accompanied by two types of bodily expression, one composed of the results of glandular discharges and movements under the guidance of the automatic system, and the

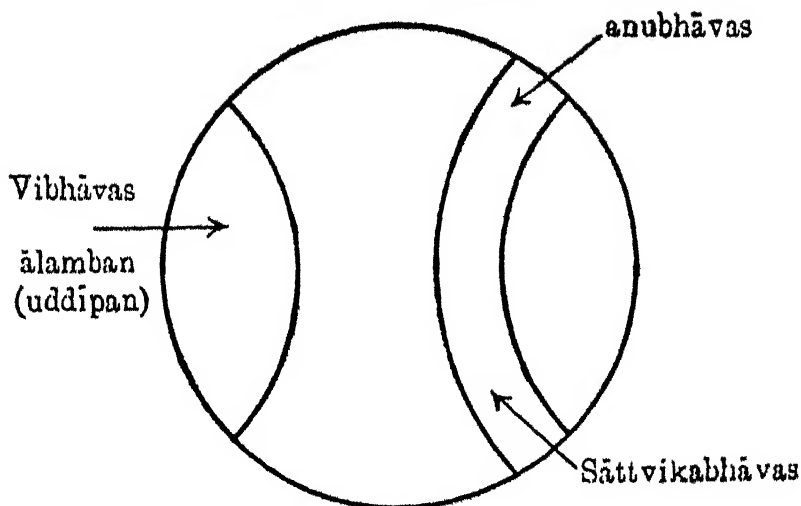


Fig. II.

other of movements mostly directed by the Rolandic motor region. These are the sāttvikabhāvas and the anubhāvas. The last or the conative (active or executive) aspect of the natural sthāyī bhava has been neglected by the Rasa theorists, because they were not concerned with the treatment of emotions under natural conditions, but only under the artificial conditions created by dancing, drama and poetry. If the natural conditions be analysed it will be seen that the last aspect is the most important one since it safeguards the organism. Usually two stages may be discovered in the last aspect, a preparatory and a consummatory stage; and the anubhāvas and sāttvikabhāvas are only subsidiary to the executive aspect. They reinforce and facilitate those movements which the organism must make to serve the biological ends.

When we enter into the region of vyabhicāri and sancāri bhāvas we find confusion doubly confounded. There are two reasons for this; one is the neglect of psychology by literary critics, and the other is the incapacity for analysis exhibited by those who attempted to describe the mental states. The relationship between sthāyī bhāvas and some of the vyabhicāri bhavas is analogous to that between chemical elements and the compounds formed out of them. The compounds could, no doubt, be analysed into the elements, but the former exhibit certain 'emergent' properties not found in the elements, and which could not have been predicted from a knowledge of the properties of the elements alone. The human mind is dynamic and very soon the primitive elements get organised into sentiments of different degrees of complexity and importance. Sometimes the intellectual elements form the

dominant components of the complex sentiments. We should keep the elements and the compounds apart in our analysis if we are to secure any degree of clarity in our thought. Many of the *sancāri* and *vyabhi-cāri* bhavas are compound sentiments, some are derived emotions, and to add to the confusion a few are merely physiological states. This confusion has been introduced even into the *vibhāvas*, for the *alambanas* are the natural excitants, while the *uddīpanas* are the result of conditioning and belong to the sentiment level.

We have indicated the lines along which the foundations of the Hindu aesthetic doctrine should be clarified by accurate analytic treatment, and how the principles of Western psychology may be used for giving the proper orientation to the *rasa* doctrine. As the main theme of the paper relates only to a part of the doctrine, we have to drop the matter at this stage, and proceed to the third section of the article.

III

What is *Rasa*? This question has been asked and answered many times in the course of the history of *Alamkara* sastra, but *rasa* still holds its secret. It is yet a secret chamber to be unlocked, and the key that can open the door is in the hands of the hormic psychologist.

In the first and the second parts of the paper we have analysed the structure of the fundamental elements composing the human mind. It was shown how each *sthāyi bhāva* is activated by certain specific *vibhāvas*. Now, comparative psychology, social psychology and sociology and field anthropology have detected a peculiar characteristic of the mind of living organisms belonging to the higher level of evolution. Each propensity (or *sthāyi-bhāva*) as well as sentiment is excited not only by its *vibhāvas* but also by its specific *anubhāvas* and *sātvikabhavas* (or the expressions of emotions pertaining to it) in another individual of the same species. 'For each emotion...there are two classes of stimuli which have the innate capacity for evoking it. One of these is the actual object... the other comprises the perception of the emotion in question as expressed in the behaviour of another. Thus the facial expression, cries and movements of fear directly arouse fear in a person witnessing them, and arouse it, as an instinctive response.' The wild horse is afraid not only when he sees or smells his carnivorous enemy, but also when he hears the neigh of fear sent forth by another wild horse, when the 'object' of fear perceived by the latter is invisible to the former. This process by which a *sthāyi bhāva* is excited by the visible or audible expression of its emotions is known as 'sympathetic induction' in contemporary psychology. Sympathetic induction operates both at the

primitive emotional level, and also at the higher sentimentative level. When induction is achieved at the higher level not through the natural expression of the blended emotion, but through such artificial means as poetry, drama and dance then Rasa is generated. Rasa is the peculiar experience which is generated in the mind of the adult whose mental structure has evolved to a fairly high level through the formation of complex sentiments, the excitant being an aesthetic object. Two characteristics of rasa experience stand revealed immediately by our analysis. One is that rasa can be experienced only by a highly cultured mind, and the other imaginary situation representing that natural objects of 'sentiment' will also arouse rasa. *Rasa, then, may be defined as the mental counter part of the totality of experience generated in a cultured person by the sympathetic induction of blended emotions pertaining to sentiments by excitants of a purely aesthetic origin.*

Our final task is to estimate to what extent the principle of sympathetic induction has been recognised by our aesthetic writers. After discoursing on vibhāvas, anubhāvas and vyabhicāri bhāvas, Bharata remarks, 'When all these are represented aided by poetry, music and other histrionic devices the deep seated instinctive impression of love (sthayi bhava) is kindled in the mind of the audience and developed to that climax, when through complete imaginative sympathy with the situation the audience forgets all differences of person, time and the place, and the climax of emotion reveals itself in a sort of blissful consciousness'.⁶ Here, there is just a suggestion of induction. The next stage of evolution is found in the writings of the Dhvanikaras. Amidst the mass of confused observations on Asamlakshyakramavyanjanā, we discern some glimmerings of true sympathetic induction. This stage is succeeded by that of Ānandavardhana and Bhaṭṭanāyaka. In both writers the concept of 'induction' becomes clear. In Dasapuram a still higher level is reached with the definition of the concept of Sahradayatvam. In Abhinavagupta's Locana there is an element of added interest in the discussion of the great urge to creative activity experienced by the master artist. But it is only when we come to Visvanatha's Sāhitya Darpaṇam that we get the clearest evidence of this important psychological principle which is the very soul of rasa. An entire chapter (the fifth) is devoted to this topic, and the verses therein give a clear exposition of 'suggestion.' But a scientific foundation and scientific analysis are needed. These ancient writers seem to challenge modern scholars in our country. And the challenge has yet to be taken up and answered!

**Studies in Sanskrit Texts on Temple Architecture
with Special Reference to the Tantrasamuccaya**

By

N. V. MALLAYYA

NOTES.

PART II.

PAṬALA II (STANZAS 1-84)

STANZA 1

A general reference to Type, Size and Orientation.

The Meaning of Prāsāda.

Having dealt at length with preliminary matters connected with architecture, the author now proceeds to treat of architecture proper. He gives in this stanza a general reference to the type, size and orientation of a Prāsāda. 'The etymology of the term 'Prāsāda' (*Prasīdantyaśmin*) lays emphasis on the subjective side of architectural idealism. Gurudeva defines the term thus¹⁷⁴:—

“देवादीनां नराणां च येषु रम्यतया चिरम् ।
मनांसि च प्रसीदन्ति प्रासादास्तेन कीर्तिताः ॥”

'Prāsāda' is so called because in it, both gods and men feel delighted by virtue of its delightful setting. This definition instructs us to look upon architecture, not merely as a production of some hands in certain materials, but as a visible embodiment of the keen mental operation of great artists; for, architectural activity is vitally connected with mental processes. If we traverse through the pages of Indian architectural literature, we cannot but be struck by a high sense of aesthetic reasoning which pervades architectural idealism. The definition given by Gurudeva embodies a view similar to the one expressed by Ruskin when he remarked that the art of architecture is “the art which so disposes and adorns the edifice raised by man, for whatever use, that the sight of these may contribute to his mental health, power and pleasure.” Enough has been said to show that, as understood by ancient architectural authorities in India, architecture forms the main setting of a happy life, that it presents before the mind's eye the flower-garden of spirit in which human and divine mind delights to tend. Amara delimits the connotation of the term 'Prāsāda' when he remarks 'वासी प्रासादो देवभूजाम्'. Palace and

temple are conspicuous structures and they convey a sense of loftiness which distinguishes itself from the quality of a humble dwelling. The theme of our author being essentially religious, Prāsada refers to temple, the abode of God, 'sanctum sanctorum' as it is generally called.

A General Classification of Prāsāda.

According to its size, Prāsāda is broadly divisible under two classes, *Alpaprāsāda* and *Mahāprāsāda*. Under the latter class may be mentioned the different varieties known as Jāti, Chandas, Vikalpa and Abhasa, each different from the other in its measurement and number of storeys. The Yajamāna who desires to have any one of these types of temples built, approaches the Guru, his preceptor and guide in matters religious. The Guru in response gets a temple, worthy of the deity that is to be installed in it, constructed by Kārus or artisans. The term 'Kāru', as its etymology indicates, refers to 'workman' as distinct from 'Guru,' the guide. It denotes all classes of śilpīns—Sthapati, Sūtragrahin, Vardhaki and Takṣaka. The workmen turn out the practical part of construction in accordance with the directions of the Guru.

The author then refers to the rule of measurement which governs the 'Alpaprāsāda', the small class of structures, the smallest type whereof measures two cubits and eighteen aṅgulas on each of its sides, the shape of the building implied here being square. In the Alpaprasada class, there are thirteen kinds of measure beginning with three cubits and ending with fifteen cubits. Each of these thirteen types admits of three variations, the increase in each succeeding type being by eight aṅgulas with respect to that preceding. On the whole thus, there are thirty-nine varieties under thirteen types. They may be tabulated as follows:—

3 Cubits Measure	Type	2 18 (y-1);	3 2 (y-5);	3 10 (y-1).
4 "	"	3 18 (y-5);	4 2 (y-1);	4 10 (y-5).
5 "	"	4 18 (y-1);	5 2 (y-5);	5 10 (y-1).
6 "	"	5 18 (y-5);	6 2 (y-1);	6 10 (y-5).
7 "	"	6 18 (y-1);	7 2 (y-5);	7 10 (y-1).
8 "	"	7 18 (y-5);	8 2 (y-1);	8 10 (y-5).
9 "	"	8 18 (y-1);	9 2 (y-5);	9 10 (y-1).
10 "	"	9 18 (y-5);	10 2 (y-1);	10 10 (y-5).
11 "	"	10 18 (y-1);	11 2 (y-5);	11 10 (y-1).
12 "	"	11 18 (y-5);	12 2 (y-1);	12 10 (y-5).
13 "	"	12 18 (y-1);	13 2 (y-5);	13 10 (y-1).
14 "	"	13 18 (y-5);	14 2 (y-1);	14 10 (y-5).
15 "	"	14 18 (y-1);	15 2 (y-5);	15 10 (y-1).

24 aṅgulas=1 cubit.

2-18=2 cubits and 18 aṅgulas

Y=yoni.

This prescription is based on the principle that temples should face either the East or the West, and thus get the full benefit of the Sun's course. The types of measure are so laid down that they are made to give any one of these two yonis, Eastern or Western. There are, no doubt, two more yonis, which are considered auspicious, but stress is laid on Dhvaja and Vṛṣa (yonis No. 1 & 5) because thus alone can temple be made to face the west or the east. The author accepts the *uttama pakṣa*, and prescribes varieties of measures which are the most desirable in the case of the sacred structure.

The measure type is prescribed with reference to the *Uttara*. Evidently in the opinion of the author, 'Uttara' is the most important member, from the point of view of the relative standard and starting unit of measure. The measure of the basement corresponds to the measure of Uttara. The term 'Uttara' is sometimes loosely rendered as entablature. Strictly speaking, it refers not to the whole assemblage of entablature, but to the lowest part thereof. It is the horizontal beam situated immediately above the pillars. Till the 54th stanza, the treatment is with respect to the *Alpaprāsada*. The measurements of the *Alpaprāsada*, which the present stanza lays down, are based on previous authorities like the *Manjari* and *Bhaskariya*.

Thus, the *Manjari*¹⁷⁵ observes :—

आरभ्य त्रिकराच्च पञ्चदशकाद्भस्तादधस्तात् क्रमात् ।
प्रत्येकं प्रवदामि लक्षणमहं संक्षेपतो वेश्मनाम् ॥

And the *Bhaskariya*¹⁷⁶ states :—

“ त्रिचतुःपञ्चहस्तं तु षट्सप्ताष्टनवा दश ।
एकदश द्वादश च त्रयोदश चतुर्दश ।
पञ्चदशान्तविस्तारमेतेन विधिना विदुः ॥”

STANZA 2.

Orientation of Temple according to its location in Īśa etc.

According to the directions contained in the previous verse, temples possess either the Dhvaja or the Vṛṣa Yoni. We have already noticed

175. *Prayogamañjarī*, an unpublished Ms.; a copy in Kerala character is preserved in the Adyar Mss. Library, Madras.

176. *Bhaskariya* (unpublished), quoted from the *Vimarśinī*.

that a temple may be built in any place which is lovely either by virtue of its natural advantages or artificial environments created in the absence of natural surroundings. The present stanza specifies the yoni with its reference to particular quarters in places marked by human habitation such as a Grāma (village), Pura (capital) and Pattana (city). Temples located in any of the quarters beginning with Īśa and ending with Yama in a village, capital or city will have Dhvaja Yoni (i.e. Yoni No. 1). In the remaining quarters, the Yoni will be Vṛṣa, (i.e. No. 5). The image that is to be installed will possess the Yoni of the temple. Thus an image enshrined in a temple which faces the west will have Yoni No. 1, because the Yoni of the temple which faces the west is Yoni No. 1. The idea in brief is that the sanctum and the image will possess similar Yoni and facing. This view is expressed by other previous authorities such as the Pāśupata and Prayogamañjarī.

Thus the *Pāśupata*¹⁷⁷ lays down:—

“ ईशपूर्वाग्नियाम्यस्थं पश्चिमाभिमुखं शुभम् ।
उत्तरानिलवारीशराक्षसस्थं पुरोमुखम् ॥”

The *Mañjarī* observes:—

“ लिङ्गध्वजस्यमृषभाश्रितमेव 'शस्तं'
तत्रापि मुख्यमनुरूपतया गृहस्य ॥”

STANZA 3.

Yoni and other Formulas

In this verse, the author lays down the group of formulas generally known as *Āyādivarga*, which governs the measurement of any architectural object. According to our text and according to many others, they are *Āya*, *Vyaya*, *Rkṣa*, *Yoni*, *Tithi*, *Vāra* as well as *Vayas*. Of these the first six are known collectively by the name *Āyādiṣaḍvarga*, and to this group is added the formula of *Vayas*. Mention of *Āyādivarga* is made in every work on architecture, but regarding the formula there is some discrepancy in certain texts. The formulas given in the *Mānasāra* thus differ from those given in our text. The author of the *Tantrasamuccaya* treats of this topic on the strength of Tāntrik authority. The formulas prescribed by the *Tantrasamuccaya* are as stated below:—

177. Quotation from *Vimarśinī*.

- (1) $\frac{P \times 3}{8}$ R . . Yoni.
- (2) $\frac{P \times 3}{14}$. R Vyaya;
or $\frac{P \times 9}{10}$ R = Vyaya.
- (3) $\frac{P \times 8}{12}$ — R = Aya.
- (4) $\frac{P \times 8}{27}$ — R = Rkṣa.
- (5) $\frac{P \times 8}{30}$. . R = Tithi.
- (6) $\frac{P \times 8}{7}$ — R = Vāra.
- $\frac{P \times 8}{27}$. . Q = Vayas.

Here P—Perimeter; R . Remainder; Q—Quotient.

It is interesting to note that in all the formulas Perimeter is the central and common figure. The formulas prescribed here are the generally accepted ones. For instance, compare the following:—

- (1) “विस्तारायामराशौ वसुगुणिते इनैर्भाजिते शेष आयो
रामघ्ने मन्ववाक्ते व्यय इह वसुभिर्भक्तशेषस्तु योनिः ।
अष्टाभिर्वर्धितेऽस्मिन्नवहृतफलं तद्वयः शेष ऋक्षं
पर्यन्ते त्रिंशदासे तिथिर्ऋषिभजिते वार आदित्यपूर्वः ॥”
- (2) “व्यासायामसमूहे वसुनिधिगुणिते दिनेशधर्महृते ।
आयव्ययमवशिष्टं रामघ्नेऽष्टाहृते योनिः ॥”¹⁷⁸

Kāśayapa¹⁷⁹ in the chapter on Āyādilakṣaṇa similarly deals with the topic. The writers of the *Vāstuvidyā*,¹⁸⁰ *Manuṣyālayacandrikā*,¹⁸¹ *Śilpa-*

178. (1), (2)—Quotations from Vimarśinī; No. (2) is attributed to Maya.

179. *Kāśyapaśilpa*, Chapter XXV, stanzas 8-11.

180. *Vāstuvidyā*, Chapter VIII, stanzas 25-28.

181. *Manuṣyālayacandrikā*, Chapter III, stanza 30.

ratna,¹⁸² have also accepted the same formulas. Thus the view of our author is supported by the general consensus of opinion.

The following are the formulas given in the *Mānasāra*¹⁸³ :—

$$(1) \frac{L \times 8}{12} - R = \text{Āya.}$$

$$(2) \frac{B \times 9}{10} - R = \text{Vyaya.}$$

$$(3) \frac{L \times 8}{27} - R = \text{Ṛkṣa.}$$

$$(4) \frac{B \times 3}{8} - R = \text{Yoni.}$$

$$(5) \frac{C \times 9}{7} - R = \text{Vāra.}$$

$$(6) \frac{C \times 9}{30} - R = \text{Tithi.}$$

Here L=Length; B=Breadth; C=Circumference.

It is worthwhile to notice in this connection that, while the *Tantra-samuccaya* and other texts require the Perimeter to be multiplied and then divided, the *Mānasāra* directs either the length or breadth or circumference to be so treated, and not the perimeter. Thus there is noticeable much divergence between *Manasara* and other authors with regard to the formulas stated; but they agree in respect of the division employed in the various formulas.

Each formula is a Śāstrak technicality and is known after the divisor in each case which is a figure corresponding to the number that forms each well-known group. Yoni thus represents the group of eight, viz., Dhvaja, Dhūma, Simha, Kukkura, Viṣa, Khara, Gaja and Vayasa. Āya stands for the group of twelve commencing with 'Siddhi', and Vyaya for the group of fourteen beginning with 'Śikhara'. 'Ṛkṣa' represents the group of 27 Nakṣatras beginning with Āśvini, 'Tithi' the group of 30 lunar days starting with Prathamā (of both the Full and the New Moon) and 'Vāra' the group of 7 days of the week, beginning with Arka (Sunday). Thus the figures employed as divisor are clear enough, but con-

182. *Sūparatna*, Chapter XV, stanza 9.

183. *Mānasāra*, Chapter IX, lines 68-74.

cerning the multiplicatory numbers such as 3, 8 etc., nothing is known. The invention of *Āyādivarga* is an architectural device, the intention of which is to find out a proper orientation to the structure and a proper dimension. Among the architectural conventions of India, *Āyādivarga* occupies an important place. Every measurement before it is accepted is required to satisfy these six fundamental requisites. Every architectural treatise prescribes a variety of dimensions, but these have to be further subjected to an examination in view of the fact that Hindu structures have to satisfy the considerations of auspiciousness, propriety and orientation. It was with a view to enabling the builder to select the auspicious and proper measurement that these traditional architectural formulas known as *Āyādiṣaḍvargas* are described in Indian architectural literature.

The application of the different formulas may be illustrated with reference to 3 cubits measure type as follows:

The perimeter of a structure having $2\frac{3}{4}$ cubits breadth is 11 cubits. Here yoni is No. 1.

$$(1) \text{ Yoni} \quad \frac{P \times 3}{8} - R = \frac{11 \times 3}{8} - R \text{ is } 1, \\ \text{i.e., Yoni is Dhvaja} \\ \text{(yoni No. 1).}$$

$$(2) \text{ Vyaya} \quad \frac{P \times 3}{14} - R = \frac{11 \times 3}{14} - R \text{ is } 5, \\ \text{i.e., Vyaya is 5.}$$

or

$$\frac{P \times 9}{10} - R = \frac{11 \times 9}{10} - R \text{ is } 9, \\ \text{i.e., Vyaya is 9.}$$

$$(3) \text{ Āya} \quad \frac{P \times 8}{12} - R = \frac{11 \times 8}{12} - R \text{ is } 4, \\ \text{i.e., Āya is 4.}$$

$$(4) \text{ Rkṣa} \quad \frac{P \times 8}{27} - R = \frac{11 \times 8}{27} - R \text{ is } 7, \\ \text{i.e., Rkṣa is 7.}$$

$$(5) \text{ Tithi} \quad \frac{P \times 8}{30} - R = \frac{11 \times 8}{30} - R \text{ is } 28, \\ \text{i.e., Tithi is 28.}$$

$$(6) \text{ Vāra } = \frac{P \times 8}{7} - R = \frac{11 \times 8}{7} - R \text{ is } 4, \\ \text{i.e., Vara is 4.}$$

$$\text{Vayas } = \frac{P \times 8}{27} - Q = \frac{11 \times 8}{27} - Q \text{ is } 3, \\ \text{i.e., Vayas is 3.}$$

STANZA 4.

The eight Yonis and their consequence

In this stanza the author enumerates the Yonis, locates the position of each yoni and mentions the good or bad effect of each. Of all the Āyādivargas, it is Yoni that is considered as the most important. It has claimed the greatest attention at the hands of every authority on architecture, and it is in the fitness of things therefore that our writer should give it the treatment it demands. Yonis are eight in number known as Dhvaja, Dhūma, Sīṃha, Kukkura, Vṛṣa, Khara, Gaja and Vāyasa and these correspond to the eight quarters. They are sometimes referred to by numbers 1, 2, 3, 4, 5, 6, 7 and 8. Dhvaja Yoni is accordingly called Yoni No. 1 and is positioned in the due East. Dhūma Yoni is Yoni No. 2 and is located in the South-East corner; Sīṃha Yoni is yoni No. 3 and is located in the due South and so on.

Yoni constitutes the life and breath of the structure, particularly of a house. A proper and auspicious yoni is therefore required to be chosen for the same. Thus the *Manusmṛtyaśāstra* observes:

“योनिः प्राणा एव धाम्नां यदस्माद्
ब्राह्मस्तत्तद्योग्ययोनिप्रभेदः ॥”¹⁸⁴

Considering the fruits thereof, the general rule is that all odd yonis are good and even ones bad. Accordingly, ‘Dhvaja’, ‘Sīṃha,’ ‘Vṛṣa’ and ‘Gaja’ are auspicious and ‘Dhūma’, ‘Kukkura’, ‘Khara’ and ‘Vāyasa’ are inauspicious. The *Silparatna*¹⁸⁵ furnishes the details concerning the fruits that particular Yonis are supposed to yield. There is a consensus of opinion that Dhvaja is the best of all the auspicious yonis and this general agreement is obviously clear from such state-

184. *Manusmṛtyaśāstra*, Ch. III, stanza 31 (T. S. S. Ed.)

185. *Silparatna*, Ch. XV, stanza 23.

ments as 'वज्रसर्वत्र पूजितः,' 'ध्वजो श्रेष्ठतमो मतः'. Our author, it might be remarked, prefers the two Yonis Dhvaja and Vṛṣa, and his inclination towards these two is evidenced by the phrases ध्वजोत्थाः and गोयोन्युत्थाः found mentioned in Stanza No. 2. This predilection is founded on the consideration that temples should be made to face either the East or the West which is the course of the sun. A temple can be given the desired auspicious facing in the direction of the sun only when the two Yonis Dhvaja and Vṛṣa are accepted, for, their location as we have seen is such that Dhvaja, occupying as it does the due East, faces the West, and Vṛṣa, occupying as it does the due West, faces the East. Holding, as he does, the most desirable view regarding the orientation of the temple, the author shows his preference in favour of Yonis No. 1 and 5, though others, namely 3 and 7, are also declared to be auspicious.

The view of the author is confirmed by the following statements of other authorities.

Thus the *Pāśupata*¹⁸⁶ observes :—

“ तत्रैकाग्र्यप्रपन्ना ध्वजधूमादयः क्रमात् ।
 ध्वजो धूमश्च सिंहश्च शुनको वृषभस्तथा ॥
 खरश्चैव गजश्चैव वायसो वास्तुयोनयः ।
 आदिप्रभृतिचत्वार एकैकान्तरिताः शुभाः ॥
 द्वितीयाद्यास्तथैवान्ये चत्वारस्त्वशुभाः स्मृताः ॥”

Similarly the *Mayamata*¹⁸⁷ holds :—

ध्वजधूमसिंहश्चावृषखरगजकाकाश्च योनिगणाः ॥
 अष्टौ योनय उदिता ध्वजहरिवृषहस्तिनः शुभदाः ।

STANZA 5.

Āya and Vyaya

The second most essential requisite that a dimension has to satisfy is *Āyādhikya*. An excess of *Āya* over *Vyaya* should always be secured. The use of the word '*Sarvādhā*' brings out the importance attached to the *Āya* formula. We may be indifferent in the matter of other formulas

186. Quoted by Śaṅkara in his *Vimarśinī*.

187. *Mayamata*, Ch. IX, stanzas 21⁽²⁾ and 22⁽¹⁾; (T. S. S. Ed.).

like Tithi and Nakṣatra, but with regard to Āya, great care should be taken, as otherwise it is sure to bring calamity. The author of the commentary '*Tantrasamuccayaṅvivarṇa*'¹⁸⁸ warns us against the improper application of the Āya formula. He remarks:

सर्वथेति.—यद्यपि तिथिनक्षत्रादिषु किञ्चिदशुभत्वमुपेक्ष्यते तथापि व्ययाधिक्यमनु-
पेक्ष्यमित्यभिप्रायः ॥

The *Mayamata*¹⁸⁹ observes :—

आयाधिकमथ शुभदं व्ययमधिकं सर्वनाशं स्यात् ।
विपरीते तु विपत्तयै तस्मात् सम्यक्परीक्ष्य कर्तव्यम् ॥

Vide also for similar observation the *Manuṣyālayacandrikā*¹⁹⁰, *Silpa-ratna* and others.

Nakṣatras and others being subjects which are commonly known through texts on astrology and the like, the author does not enumerate them here.

STANZA 6.

The Five Ages.

Of the different ages mentioned in this stanza, 'Yauvana' is the best as the usage 'atha' close to 'Yauvana' indicates. The author of the *Manuṣyālayacandrikā*, who follows our author closely in his treatment, remarks :

इह (वयसि) तारुण्यं वयः शोभनम् ॥¹⁹¹

Of the four desirable ages Kaumāra and Yauvana are preferable to Balya and Vārdhakya, for, it is said:

बाल्यवार्धक्ययोगौ च रिक्ता चापि विनिन्दिता ॥

188. A commentary on the *Tantrasamuccaya* by the disciple of the author; in Ms. form (Grantha characters) it is available at the Madras Government Oriental Mss. Library, R. No. 1994.

189. *Mayamata*, Ch. IX, stanza 24 (T. S. S. Ed.).

190. *Manuṣyālayacandrika*, III, 32 (T. S. S. Ed.).

191. *Manuṣyālayacandrikā*, III, 39 (T. S. S. Ed.).

Considering the comparative estimate of these different ages, 'Yauvana' may be classified as the best, 'Kaumāra' indifferent, 'Bālya' and 'Vārdhakya' low, and 'Maraṇa' as the worst which should be discarded at all costs. The *Śilparatna* thus remarks :—

मध्यमे बाल्यवार्धक्ये मरणं त्वधमाधमम् ।
अनुत्तमे तु कुमारयोवने वेति केचन ॥¹⁹²

Also vide in this connection the *Manuṣyālayacandrikā*:—

बालत्वं कुमारं यौवनमथ वार्द्धकं च निधनं च ।
पञ्च वयांस्येवन्त्यं नेष्टं शिष्टानि वास्तुनीष्टानि ॥¹⁹³

STANZA 7.

The Height of a Building.

This stanza lays down the height of a temple from the lowest member of its basement (Paduka) to the finial (Stūpikā), both inclusive. It is of four kinds according to our author, who accepts the rules laid down in previous writings. The alternative heights he has prescribed are in the wake of the following observation made in the *Nibandhana*¹⁹⁴:—

सप्तांशत्र्यर्धिकोऽध्यर्धः पादोनद्विगुणोऽपि वा ।
द्विगुणो वोच्छ्रयः प्रोक्तो विस्तारात् सर्ववेश्मनाम् ॥

The total height of the temple, according to this statement, is of four kinds: $1\frac{1}{2}B$, $1\frac{1}{2}B$, $1\frac{3}{4}B$, $2B$ (B. Breadth). It is noteworthy here that it is with reference to breadth as distinct from length that the height is measured. There is no difference between length and breadth in a square building, but breadth has been distinctly taken as the standard for measuring the height. This reference to breadth as the standard is intentional, for the author while laying down this rule was having in his view structures such as the 'Āyatacaturaśra' where the length is greater than the breadth.

192. *Śilparatna*, XV, 17, 18.

193. *Manuṣyālayacandrikā*, III, 33.

194. *Saivāyamanibandhana*, (Ms. from the Cochin State), Paṭala XIII.

In such cases where the breadth is less than the length, it is with reference to breadth and not length that the height should be measured. It is to make this point clear that the term 'Vyasa', which means breadth, has been used. In every treatise on architecture, breadth is determined first and then the height which always bears proportion to the breadth. The *Alpaprasada* class begins with three cubits measure type. Here, let us take for instance, the smallest variety which measures 2 cubits and 18 angulas for its breadth. Here, where the breadth is $2\frac{3}{4}$ cubits, the height can be raised up to 5 cubits and 12 angulas which is double the breadth. Of the four alternative proportions of height which the stanza under consideration permits, the generally accepted one in temples of small measure type is the fourth alternative which enjoins double the breadth for the height of the temple. But, in temples of greater measure type, the lesser proportions may be employed with prejudice neither to the beauty of the structure nor to the stability thereof. With reference to the enumeration of types there is difference of opinion. The *Manasara*,¹⁹⁵ *Mayamata*¹⁹⁶ and *Kātyāyanaśilpa*¹⁹⁷ refer to five sorts of measurement pertaining to the height of structures, technically known as *Santika*, *Paṇṣṭika*, *Jayada*, *Adbhuta* and *Sarvakamika*. The *Manjari*, on the other hand, gives the number four in one place and three in another and does not refer to the various technical names. The following stanza from the *Manjari*¹⁹⁸ prescribes the four alternative heights.

विस्तारं मुनिर्गर्विभञ्ज्य द्युतमुक्त्वागार्धिकामेवमेकं
 बाध्यर्थं द्विगुणं तथा विरहितं पादेन विस्मान्नः ।
 विस्तारद्विगुणश्चतुर्विधमभ्युदुत्सेधमत्युत्तमं
 कर्तव्यं यत्रमानशृङ्खितनकं स्थानस्य संपत्करम् ॥

The four varieties of height set forth in this stanza are in perfect consonance with the proportions observed in our text. With regard to the small type of measure, three heights are prescribed in a subsequent verse in the *Manjari* which runs as follows:—

विस्ताराध्यधमुत्सेधं पादान्द्विगुणं ततः ।
 विस्तारद्विगुणोत्सेधमुत्सेधं त्रिविधं भवेत् ॥

195. *Manasāra*, Chapter XXXV, Stanzas 12, 13.

196. *Mayamata*, Ch. XI, 9.

197. *Kātyāyanaśilpa*, Paṭala XXIV, 7.

198. *Pragayanamanjari* (Adyar Mus. Library), Paṭala VI.

Four out of the five varieties referred to in the *Mayamata* are the same as those stated in the *Tantrasamuccaya*. The five alternative portions laid down there are $1\frac{3}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, $1\frac{3}{4}$ and 2 times the Breadth. The verse quoted below embodies all these proportions:—

केचिद् वदन्ति देवानां मानुषाणां विमानके ।
विस्तारे सप्तपट्पञ्चचतुस्त्र्यंशेऽधिकं त्रिभिः ॥
शान्तिकं पौष्टिकं जयदमदभुतं सार्वकामिकम् ।
उच्छ्रयं द्विगुणं पादार्धाधिकं चापि सम्मतम् ॥¹⁹⁹

Though most of the types given in the *Gurudevapaddhati* do not differ from the types mentioned in our text, there is some discrepancy in the measurement laid down in the *Gurudevapaddhati*.

Compare the following lines from the *Gurudevapaddhati*²⁰⁰:—

अथवाल्पकनिष्ठानां व्यासे सप्तविभागके ।
पटङ्गाधिकमुधं स्थान्मध्यानां पञ्च चाधिकम् ।
त्र्यंशधिकं चोत्तमानां प्रासादानामितोन्नतिः ॥
अत्योत्तमविमानानां व्यासाद् द्विगुण उच्छ्रयः ॥
द्विगुणात् सप्तमांशोनमल्पमध्येषु तुङ्गता ।
तसादर्थोऽशहीनः स्यादुत्सेधोऽल्पाधमस्य तु ॥

The *Manasāra* in the Chapters²⁰¹ entitled 'Bhūmilambavidhāna' and 'Śālāvidhāna' treats of this subject of height. The text of Chapter XI is so full of errors that no clear sense could be made out of it. It,²⁰² however, seems to contain the measures of $1\frac{1}{4}B$, $1\frac{3}{4}B$, $1\frac{1}{2}B$, $1\frac{3}{4}B$, and $2B$ classified under the following heads:—

Height of Kaniṣṭhaharmya— $2B$ (Adbhuta).

Height of Madhyamaharmya— $1\frac{1}{4}B$, $1\frac{1}{4}B$, (Jayada, Pārṣṇika and Sārvakārnika).

Height of Utkrṣṭaharmya— $1\frac{1}{2}B$, and $1\frac{3}{4}B$ (Śāntika and Pauṣṭika)

199. *Mayamata*, Chapter XI, 8 and 9 (T. S. S. Ed.).

200. *Gurudevapaddhati* (T. S. S. Edition), Uttarārdha, Paṭala XXX, 22, 23; 52; 53. (T. S. S. Ed.).

201. *Manasāra* (P. K. Ācārya's Edition), Chapters XI and XXXV.

202. *Manasāra*, Chapter XI, lines 13-23.

In the Chapter on 'Śālāvidhāna', the *Mānasāra* is clear on the proportions of height from the Janman to the Stūpikā. The following ²⁰³lines deal with the topic:—

तद्विस्तारसमोत्तुङ्गं सपादार्धं तु तुङ्गकम् ।
 त्रिपादाधिकमुत्सेधं विस्तारद्विगुणोदयम् ॥
 प्रथमं शान्तिकोत्सेधं द्वितीयं पौष्टिकोदयम् ।
 तृतीयं जयदोत्तुङ्गं चतुर्थं धनदोदयम् ॥
 पञ्चमं चाद्भुतोत्सेधं जन्मादिस्तूपिकान्तकम् ॥

According to these stanzas:—

Śāntika height is	1B.
Pauṣṭika height is	1¼B.
Jayada height is	½B.
Dhanada or Sārvakāmika height is	1¾B.
Adbhuta height is	2B.

Regarding the application of the technical terms 'Śāntika' and others to the proportions of height as laid down in Chapter XI and Chapter XXXV of the *Mānasāra* there is no consistency except in the cases of Adbhuta and Sārvakāmika. Similarly, when we compare the several texts, the terms Śāntika etc. as used and understood in one text are not similarly used and understood in the others. It is not possible therefore to accept this terminology about which there is so much of divergence of opinion. Both the authors of the *Prayogamanjarī* and *Tantrasamuccaya* refrain from the employment of these terms. They simply lay down the widely accepted proportions of height. Though there is no consensus of views in the matter of terminology, with regard to the proportions there is a general and remarkable agreement. Thus:—

- (a) 1¾B is accepted by the *Mayamata* (XI.8-9); *Prayoga Mañjarī* (Paṭ. VI); *Silparatna*; *Mānasāra* (Ch. XI, 1-18). [The line here reads 'सौम्येष्टे त्र्यंशाधिके.' The reading 'चतुरंशे' which P. K. Ācārya suggests seems to us unnecessary and unwarranted].
- (b) 1½B. is accepted by the *Saināgamanibandhana* (Paṭ. XIII); *Mayamata* (XI 8-9); *Mañjarī* (vide Quotation above);

Īśurudevapaddhati (Uttarārdha Paṭ. XXX, 53); *Śilparatna*; *Manasara* (Ch. XI-L. 17, Ch. XXXV St. 11).

- (c) $1\frac{3}{4}$ B is accepted by the *Saivāgamanibandhana* (Paṭ. XIII); *Mayamata* (Ch. XI 8-9); *Mañjarī*; *Śilparatna*; *Mānasāra* (XI L. 15, XXXV St. 11).
- (d) 2B is accepted by the *Saivāgamanibandhana*; *Mayamata* (XI, 8-9); *Mañjarī*; *Īśurudeva* (Uttarardha XXX 52); *Śilparatna*; *Manasara* (XI, L. 13, XXXV, St. 11).

The foregoing references evidently indicate that, whatever may be the terminology adopted, the proportions stated are the most commonly accepted, and these widely approved proportions have not escaped notice at the hands of Nārayana. It will be noticed in this connection, that the author, while he is in favour of a nomenclature about which there is perfect consensus of opinion, carefully avoids acceptance of a terminology which is differently adopted by different writers. In such a case as this, where there is no uniformity in the understanding of terms, the author presents the ideas in plain descriptive language and uses expressions of primary signifiatory capacity. In his treatment of the subject of pillars, for instance, the description is simple and clear enough. The author describes the pillars²⁰⁴ according to their shape and this description is divested completely of the use of a doubtful nomenclature.

STANZAS 8 & 9

The Height of Stambha and Adhiṣṭhāna.

After having prescribed the height of the structure, the author proceeds to treat of the height of the two members, Adhiṣṭhāna and Stambha. In stanza 1, we have referred to the various classes of measure beginning with three cubits type, each variety differing from the other in the measure of eight aṅgulas. Temples which come under the class of 3 cubits (i.e., which possess any one of the three alternatives 2 cubits 18 aṅgulas, 3 cubits 2 aṅgulas and 3 cubits 10 aṅgulas), will have, according to the present prescription, pillars measuring two cubits for their height.

Those that belong to the 4 cubits type (viz. 3 cubits 18 aṅgulas 4 cubits 2 aṅgulas, 4 cubits 10 aṅgulas) will have pillars which are two cubits and four aṅgulas high and those of 5 cubits measure type will have

pillars that have 2 cubits and 8 āṅgulas of height. Proceeding in this strain till we reach the final measure type of 15 cubits in the *Alpaprāsāda* class, pillars will have the height of four cubits. The *Saṃyamaṇibandhana* thus remarks:—

स्तम्भाः चतुष्कराः पञ्चदशहस्ते तु मन्दिरं ॥

Corresponding to the increase in the breadth of the temple²⁰⁵ by one cubit under each class there should be an increase in the height of the pillar by four āṅgulas. The following stanzas from the *Nibandhana* and *Mañjarī* support this point of view. Thus the *Nibandhana*²⁰⁶ observes:—

त्रिहस्ते द्विकराः स्तम्भा गोलकद्वयवर्धिताः ।
हस्ते हस्ते स्थिता गेहादापञ्चदशहस्तकात् ॥

The *Mañjarī*²⁰⁷ states:—

आरभ्य त्रिकराञ्च पञ्चदशकादस्तादभस्तात् क्रमात्
प्रत्येकं प्रवदामि लक्षणमहं संक्षेपता वेश्मनाम् ।
आरभ्य द्विकरात् क्रमेण विहितस्तम्भस्य वृद्धिस्ततः
प्रत्येकं चतुरङ्गुलं गृहवशादेकैकहस्ताश्रितः ॥

With regard to the height of the *Adhusthana* or the basement, the author declares that it is half that of the pillar.

In the *Mānasāra*, *Mayamata*, *Kāsyapaśilpa* and *Gurudherapaddhati*, the height of pillars is determined in its relation either to the height of the temple or the height of the basement. But, here in our text, the height of the pillar prescribed is relative to the breadth of the building, and the height of the basement is proportionate to the height of the pillar. The relative height of the pillar and basement in a structure coming under the *Alpaprāsāda* class whose measure type ranges from 3 to 15 cubits may be presented as follows:—

205. *Saivāgama Nibandhana* (An Unpublished Ms. from the Cochin State), Pātala XIII.

206. *Ibid.*

207. *Prayogamañjarī* (Unpublished Ms.), Pātala on 'Prasādanakāraṇa.'

Type.	Height of the pillar		Height of the basement.	
	2 cubits		1 cubit	0 angulas.
Three cubits type	2 cubits		1 "	2 "
Four " "	2 cubits	4 angulas	1 "	4 "
Five " "	2 "	8 "	1 "	6 "
Six " "	2 "	12 "	1 "	8 "
Seven " "	2 "	16 "	1 "	10 "
Eight " "	2 "	20 "	1 "	12 "
Nine " "	3 "	4 "	1 "	14 "
Ten " "	3 "	8 "	1 "	16 "
Eleven " "	3 "	12 "	1 "	18 "
Twelve " "	3 "	16 "	1 "	20 "
Thirteen " "	3 "	20 "	1 "	22 "
Fourteen " "	4 ..		2 cubits	..

The height of the basement, according to almost all the authorities we have consulted, is half that of the column. Stanzas quoted below from various authorities will illustrate the point. Thus the *Nibandhana*²⁰⁸ observes:—

स्तम्भार्धोऽधमधिष्ठानं पादबन्धं प्रतिक्रमम् ॥

The *Mayamata*²⁰⁹:—

स्तम्भोऽर्धं वा मसूरोऽधमानं तत् षट्सप्ताष्टांशकं भागहीनम् ।
वास्तवाभाराणं भवेत् सर्ववस्तुष्वेवं पूर्वं शम्भुना सम्यगुक्तम् ॥
आस्ताधिष्ठानतुङ्गस्य द्विगुणं पादतुङ्गकम् ॥

The *Kāśyapaśilpa*²¹⁰:—

उत्तोत्मेधांशमानेन पादायामो विधीयते ।
उत्ताधिष्ठानतुङ्गस्य द्विगुणं वाऽङ्घ्रितुङ्गकम् ॥
.....
हर्म्याच्च वस्तुधा भज्य एकांशं हि तलोलतम् ।
द्विभागं चरणायामं ॥
सदनोच्चं दशांशैकमधिष्ठानोदयं भवेत् ।
सार्धद्व्यंशं तु पादोच्चं ॥

208. *Saivāgama Nibandhana*, Paṭala XIII.

209. *Mayamata* (T. S. S. Ed.), Chapter XIV, 47; and Chap. XV, St. 4.

210. *Kāśyapaśilpa* (Anandāśrama Series), Paṭala VIII, St. 3; XXVII, 14, 19, 20, 21, 22; also vide XXVII, 23, 26, etc.

The Gurudeva paddhati: ²¹¹

एतेषामात्तविस्ताराद् द्विगुणः स्यादिहोच्छ्रयः ।
उच्छ्रये चाष्टधा भक्ते स्यादधिष्ठानमंशतः ॥
स्तम्भोत्सेधस्तु भागाभ्यां

The Mānasāra: ²¹²—

उत्सेधे चाष्टभागे तु चैकांशेन मसूरकम् ।
द्विभागं चाङ्गिकोत्तुङ्गं ॥
.....
अथवा तुङ्गमाने तु दशभागं विभाजिते †
सपादांशमधिष्ठानं तद्द्वयं पादतुङ्गकम् ॥
.....
अथवा हर्म्यतुङ्गे तु षोडशांशं विभाजिते ।
अधिष्ठानं द्विभागं स्यात्पादतुङ्गं युगांशकम् ॥
चतुर्भागमधिष्ठानं तद्द्वयं पादतुङ्गकम् ॥

Examples from the same context can similarly be multiplied to show that in the opinion of the author of the *Mānasāra* the height of the basement of a structure is half that of the pillar. This allotment of a considerable part to the basement of the structure, not only makes the structure supremely stable, but provides scope for the employment of lateral mouldings, which in their variety and richness characterise the Indian temples.

The height of the pillars and basement as set forth in the previous stanza is not fixed by invariable and fast rules. It is capable of being modified and increased as the fitness of the structure demands. Different shades of measure are prescribed which may be added to or diminished from the general proportion of measure already laid down. The choice is left to the option of the builder. The stanza under observation directs the variation to be effected as follows:—

Divide the height between the Udaya and the Uttara into parts six, seven, eight, nine, ten or eleven. 'Udaya' is interpreted as 'सित्तैर्मूलप्रदेशः',

211. *Gurudevapaddhati* (T S S. Ed), Uttarārdha Patala XXX, Stanzas 60 and 61

212. *Mānasāra* (P. K. Ācārya's Ed), Ch. XIX, line 21 and 22, 48 and 49, 87 and 88; Ch. XXI, line 13,

पादुकस्य मूलप्रदेशो वा'. It is the lowest part of the wall or the pillar. The six main parts of a temple, according to all authorities on the architecture of the Hindus, are Adhithāna, Pāda, Prastara, Gala, Śikhara and Stūpikā. Uttara is the lowest member of Prastara and it rests on the pillars or walls. The portion required to be divided being below the 'uttara' and above the 'Udaya' (the bottom of wall or pillar), in plain words, it is the height of the pillar or the wall that is to be divided. Having divided the height of the pillar by any number six, seven, eight, nine, ten or eleven, one part thereof may be added to or subtracted from the height of the pillar laid down in the previous stanza. This modification may be illustrated thus—Thus height of the pillar belonging to a temple of three cubits measure type is 2 cubits. According to the present rule, it may be 2 cubits 4 āṅgulas, 2 cubits $3\frac{3}{4}$ āṅgulas, 2 cubits 3 āṅgulas, 2 cubits $2\frac{2}{3}$ āṅgulas, 2 cubits $2\frac{2}{5}$ āṅgulas, 2 cubits $2\frac{2}{11}$ āṅgulas, a cubit and 8 āṅgulas, 1 cubit and $8\frac{4}{7}$ āṅgulas, 1 cubit and 9 āṅgulas, 1 cubit and $9\frac{1}{3}$ āṅgulas, 1 cubit $9\frac{3}{5}$ āṅgulas, 1 cubit $9\frac{9}{11}$ āṅgulas. The height of the basement of the temple of three cubits measure type is one cubit according to the previous rule. The stanza under explanation states that, having divided this height into 6, 7, 8 or 9 parts, one part thereof may be deducted from the height already generally prescribed and we get accordingly the varied measures of $\frac{5}{6}$ cubit, $\frac{7}{7}$ cubit, $\frac{7}{8}$ cubit, $\frac{8}{9}$ cubit. Variety of measure in the case of the height of the basement results only through subtraction of parts $\frac{1}{6}$, $\frac{1}{7}$, $\frac{1}{8}$ and $\frac{1}{9}$ and never through addition. In the case of the height of the pillar both increase and decrease are allowed. Thus we get in all, through the application of the principles of measure as set forth in the two stanzas 8 and 9, thirteen alternative proportions for the height of the pillar, and five alternative proportions for the height of the basement under each measure type of temple. The statements of other authorities on the subject confirm the author's statements regarding the manifold varieties of relative proportions we have observed.

The *Mayamata*²¹³ thus remarks :—

जन्मोत्तरान्तरगतं गृहपादमानं षट्सप्तनागनवपङ्क्तिहरांशमेकम् ।
 न्यूनं करोतु गृहसंघृतिपादतोऽथ यद्वाधिकं निखिलसालगतेषु चैवम् ॥
 स्तम्भाधोर्च्चं वा मसूरोच्चमानं षट्सप्ताष्टाङ्केषु वा भागहीनः ।
 वास्त्वाधारोच्चं भवेत् सर्ववास्तुष्वेवं पूर्वं शम्भुना सम्यगुक्तम् ॥

213. *Mayamata* quoted in *Vimarśinī*; also vide *Mayamata*, T. S. S. Ed., Chapter XIV, 47½.

The *Kāśyapaśilpa*²¹⁴ allows less number of alternatives:—

उत्काधिष्ठानतुङ्गस्य द्विगुणं वाङ्घ्रितुङ्गकम् ।
तस्मोत्तारतलोच्चं तु षष्ठांशं त्वधिकं तु वा ॥

STANZA 10.

The Breadth of the Column.

In this stanza, the author treats of the breadth of the pillar at its base and top. It should be determined as directed below:—Let the height of the pillar from the Prati to the Uttara be divided into eight, nine or ten parts; one part thereof will constitute the breadth of the foot of the pillar. The breadth at the base being divided into eight, nine or ten parts, the upper extremity of the pillar will be diminished by one of those parts. The height of the pillar here referred to is to be measured from the Prati (the topmost moulding of the basement) to the 'Uttara' (the lowest member of the entablature). In other words, it is to be measured from above the base to below the lowest part of the entablature.²¹⁵ The breadth of the pillar at the base, according to the directions of the author, is $\frac{1}{8}$, $\frac{1}{9}$, or $\frac{1}{10}$ of the height of the pillar. The breadth of the pillar at the top is $\frac{7}{8}$, $\frac{8}{9}$, or $\frac{9}{10}$ of the breadth at the base, the breadth at the top being less than that at the base by $\frac{1}{8}$, $\frac{1}{9}$, or $\frac{1}{10}$. This is the breadth prescribed for wooden pillars. As for the breadth of pilasters attached to the wall the rule is that it should be half or two-third or three-fourth of the breadth prescribed for wooden pillars. The relative proportions of the breadth proposed with reference to the bottom and top of pillars or pilasters are in perfect agreement with those set forth in other texts. The proportions stated in our text are the commonest. A comparison of our text with others on this head serves to amplify the information furnished in our text. We shall therefore refer to, as usual, the *Mayamata*, *Kāśyapaśilpa*, *Mānasāra* and others.

The *Mayamata*²¹⁶ thus observes:—

पादोच्चपङ्क्तिनन्दाष्टभागैकं वाङ्घ्रिविस्तरम् ।
दारुस्तम्भगतं ह्येतत् कुड्यपादमथोच्यते ॥

214. *Kāśyapaśilpa*, (Ānandāśrama Series), Patala VIII, stanzas 3(2), 4(1).

215. *Mānasāra*, Chapter XV, line 7.

216. *Mayamata*:—This text quoted above is an extract from the commentary *Vimarśinī*. These lines are also found in the *Mayamata* of the Trivandrum Sans-

तदर्धं वा त्रिभागोनं चतुर्भागोनमेव वा ।
 कुड्यस्तम्भविशालं स्यादेतत् सर्वेषु धामसु ॥
 तन्मूलतारमाख्यातं तत्तारं तु तथा भजेत् ।
 एकभागविहीनं तु शेषमग्रविशालकम् ॥

In the *Kāśyapaśilpa*, the same text is found with little modification. The readings given in the Ānandāśrama edition of the text pertaining to this subject are somewhat clumsy and contain errors. The idea of the author with regard to the measurement is, however, found in agreement with the *Kāśyapaśilpa*.

The text of the *Kāśyapaśilpa*²¹⁷ furnished in the Ānandāśrama Edition runs thus:—

“पादोच्चं पङ्क्तिनन्दाष्ट भागैकं वाऽङ्घ्रिविस्तरम् ॥
 दारुपादतलं ह्येतत्कुड्यपादमथोच्यते ।
 तदर्धं वा त्रिभागैकं^b चतुर्भागोनमेव वा ॥
 °आढ्यस्तम्भविशालं स्यादेतत्सर्व^cसुधर्मसु ।
 [तुङ्गं सप्तांशमथवा नवधर्मांश एव वा ॥
 रुद्रभान्वंशकं वाऽथ कृत्वैकांशाङ्घ्रिविस्तरम् ।]°

krit Series (Ch. XV, 6, 7, 8), but they are not given there in the same serial order as furnished in the quotation given above. Certain lines are missing. In point of details and order of treatment, the *Mayamata* text quoted from the commentary *Vimarśinī* is closer and therefore we have preferred this quotation from the *Vimarśinī*.

217. *Kāśyapaśilpa*, Patala VIII, 4⁽²⁾, 5, 7⁽²⁾, 8, 9

- (a) The correct reading is पादोच्चपङ्क्तिनन्दाष्टभागैकम् etc., as given in the previous extract.
- (b) The reading त्रिभागोनं conforms to the idea of the text.
- (c) The reading आढ्यस्तम्भ is evidently a scriptorial error; the correct reading is कुड्यस्तम्भ
- (d) The correct reading in the light of the *Mayamata* text here is सर्वेषु धामसु
- (e) The portion bracketed furnishes alternative proportions more detailed than the previous ones One-tenth, one-ninth, or one-eighth part of its height will be the width of the pillar; this is (for) the wooden pillar (Dārustambha) The (Kudyastambha) pilaster attached to the wall will be described now. Half this (or the width of the wooden pillar), or two-third, or three-fourth of it (i.e., the width of the wooden pillar mentioned above) will be the width of the pilaster. This is (the prescription) in the case of all houses.

तन्मूलतारमाख्यातं तत्तारं तु तथा भजेत् ॥

एकभागविहीनं तु शेषमग्रविशालकम् ।”

Having divided the height into seven, nine, eight, eleven or twelve parts, one part thereof will be allotted for the breadth of the pillar. Considering these different prescriptions given by the *Kāśyapaśilpa*, we may hold, on the whole, that the width of the wooden pillar according to the *Kāśyapaśilpa* may be stated as $\frac{1}{7}$, $\frac{1}{9}$, $\frac{1}{10}$, $\frac{1}{11}$, or $\frac{1}{12}$ of the height of the pillar and that of the pilaster half, two-third or three-fourth the width of the wooden pillar. This much indeed does the text of the *Kāśyapaśilpa* that we have before us warrant us to assert. But Rām Rāz in his Essay²¹⁸ observes: “The height of the pillar,” says Kāśyapa, “may be three times that of the base, or six or eight times that of the pedestal; the breadth of the pillar may be a sixth, seventh, eighth, ninth, or tenth part of its height; if it be made of wood or stone, one-third, or one-fourth, or one-sixth of the height if it be a pilaster joined to a wall (Kuḍyastambha)” And Dr. P. K. Ācārya in his Dictionary of Hindu Architecture states in the wake of Rām Rāz: “but according to Kāśyapa.... the diameter of a pillar may be $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{9}$, or $\frac{1}{10}$ of its height; if it be made of wood or stone, $\frac{1}{3}$, $\frac{1}{4}$, or $\frac{1}{6}$ of the height, if it be a pilaster joined to the wall (Kuḍyastambha).”²¹⁹ It is not possible to agree with the authors of these statements in the light of the evidence that the *Kāśyapaśilpa* text before us throws on the subject. There can hardly be any doubt as to the authority of the text in our possession, since it is confirmed by other writers on the same topic. The text of Kāśyapa that we have quoted above in support of Nārāyaṇa’s views on the width of the pillar, does not seem to have come to the notice of both the scholars Rām Rāz and P. K. Ācārya.

According to the *Nibandhana*, the width at the top is less than that at the base by one-eighth. Thus states the writer of the *Nibandhana*:

मूलाष्टाङ्गविहीनाग्राः कार्यास्त्वष्टांशविस्तराः ॥²²⁰

Concerning the width of the pillar, *Mānasāra* states:—

तत् (कुड्यस्तम्भ) चतुर्द्विगुणितं वापि त्रिगुणं वा चतुर्गुणम् ।

एतत् स्तम्भविशालं स्यादथवा तुङ्गमानतः ॥

218. *Essay on the Architecture of the Hindus*, page 29.

219. *A Dictionary of Hindu Architecture*, page 644.

220. *Śavāgamanibandhana*, Patala XIII.

आदित्यरुद्रपङ्क्तयंशरन्ध्रं चाष्टांशकं भवेत् ।

एकैकं पादविस्तारं तत्तत्पादोनमग्रतः ॥

एतत्पादविशालं स्यात् ॥²²¹

The width of the (wooden) pillar, in the opinion of *Mānasāra* is then twice, three times, or four times that of the pilaster. Or, the height of the pillar having been divided into twelve, eleven, ten, nine, or eight parts, one of these parts may be the width (at the base). At its top, it will be diminished by one part (तत्पाद) of its respective division (into 12, 11 etc.). This is the width of the pillar. Dr. P. K. Ācārya in his translation of the *Mānasāra* has rendered the portion "*tattad-pādo-namagrataḥ*" as smaller by one-fourth at the top,²²² and he states in his Dictionary of Hindu Architecture: "The height of a pillar being divided into 12, 11, 10, 9, or 8 parts, one of these parts is the diameter of the pillar, and at the top it is diminished by one-fourth."²²³ This interpretation is hardly acceptable and assumes that *Mānasāra* deviates from the general line of proportions set forth by other equally important writers on the subject. The term 'Pāda' though often interpreted as one-fourth does not always mean that. Like the English term 'Quarter' which generally means 'one-fourth' it is employed sometimes in the sense of a division. The term 'quarter', for instance, when we speak of eight quarters means only a *directional division* and not one-fourth. 'Pāda' is similarly used in the sense of a *division* in Jaimini's *Pūrvamīmāṃsa*, where Chapters III, VI and X are described as consisting of eight Pādas each. We may thus feel justified in interpreting the term 'Pāda' here in the sense of a "part". Such a rendering further brings the *Mānasāra* nearer to the *Kāśyapaśilpa*, *Mayamata* and other works and brings about a consensus of opinion on the subject of the prescription of the width of the pillar.

The interpretation of 'तत्तत्पादोनमग्रतः' as smaller by one-fourth at the top further assumes that the diminution of the breadth at the top is constant irrespective of the altitude of the column. This is opposed to scientific principle and actual practice. To keep in with science and taste, the diminution of the breadth at the top of the pillar should be proportionate to the height of the pillar and relative to its breadth at the base. It should take into account the beautiful effect of different proportions and should be effected, therefore, gradually and fittingly.

221. *Mānasāra*, Chapter XV, lines 15, 16, 17, 18 and 19.

222. *Mānasāra*, Translation by Ācārya, p. 152.

223. *Dictionary of Hindu Architecture*, page 644.

There cannot be one and the same rule of diminution working when the proportions of dimensions are varying. The diminution by one-fourth is hardly compatible with the principle and practice of ancient architects whether of India or of Greece and Rome. For, as Rām Rāz observes: "in the Grecian and Roman architecture, the diameter of the upper part of the shaft, in a column of fifteen feet in height, is made one-sixth less than its thickness at the base; and in a column of fifty feet, the diminution is one-eighth."²²⁴ The fundamental principle that underlies this prescription is that the higher the columns are, the less they diminish in their breadth at the top. This principle born of great scientific skill and refined taste is not a unique discovery of the Grecian architects, for the precepts derived from the same principle have been taught and practised in India from time immemorial. The interpretation of Pāda as one-fourth given by Dr. Ācārya pays no regard to this universally accepted principle. The rendering 'Pāda' as of 'part', on the other hand, gives a meaning which is consistent with the principle followed by the architects of India and Greece. Our interpretation is supported also by Rām Rāz who renders the term 'Pāda' as 'part' in this connection.

The view expressed in the *Mañjarī* also accords with the common view on the diminution noted above. Thus the *Mañjarī* observes:—

स्तम्भास्तत्र चतुष्कराः सुविहितानष्टांशको विस्तृतान् ।

मूलाष्टांशविहीनकाग्रबहलान् संस्थापयेत्तत्र तु ॥²²⁵

The author of the *Manuṣyālayacandrikā* follows the general strain when he states:—

स्तम्भोच्चाब्धीषुषड्मूधरवसुनवदिगुद्रभागैकतः स्यात्

स्तम्भाधोविस्तृतिस्तद्वसुनवदशरुद्रांशहीनोग्रतारः ।

दण्डाख्यश्चायमेतेन च कुहचिदथो मीयते दारुक्त्वसौ

कुड्यस्तम्भाग्रतारोऽप्यथ तदवयवाकल्पने दण्डसंज्ञः ॥²²⁶

The following statements found in the *Vāstuvidyā* may also be compared:—

अथ पादस्य दैर्घ्येन तद्विष्कामं च कारयेत् ।

दर्शनादिवसुद्वारपङ्क्तिरुद्रांशकैः कृतम् ।

224. *Essay on the Architecture of the Hindus*, pp. 38-39.

225. *Prayogamañjarī*, Patala VI on 'Prāsādalakṣanavidhi' (Adyar Mss Library).

226. *Manuṣyālayacandrikā*, (T S. S Ed.), Ch V, st. 24.

तत्समां विस्तृतिं कुर्यात् ॥
स्तम्भाग्रस्य च हीनत्वमष्टमांशादिकं भवेत् ॥²²⁷

The author of the *Silparatna* also follows our author closely in this connection ²²⁸

‘चरणप्रतानोऽत्र दण्डः’. The last quarter of the stanza defines the term ‘Daṇḍa.’ Daṇḍa is the breadth of the pillar at the top, and it is employed as a standard of measure, by having recourse to which the different measurements of the parts of the wall are determined. In the quarter ‘चरणप्रतानोऽत्र दण्डः’, the expression ‘atra’ is variously interpreted by various commentators Śaṅkara in his *Vimarśinī*, understands it as referring to wooden pillars. The *Vivaranakāra*, on the other hand, takes it as referring to the theme of architecture, and remarks: ‘अत्र प्रासादप्रकरणे इत्यर्थः’ ²²⁹ It is not definitely stated by the *Vivaranakāra* whether Daṇḍa refers to a regular wooden pillar or to a pilaster attached to the wall. According to a Malayālam Commentary,²³⁰ the breadth at the top of the pillar is described as Daṇḍa. K. Nīlakanthan Āśārī,²³¹ another Kerala commentator, tells the same thing about Daṇḍa. A third Malayālam Commentator,²³² K. Dāmodaran Nambūdirippāḍ, observes that ‘Daṇḍa’ is the top measure of any kind of pillar. In this case, the measure will change with reference to the nature of the pillar according as it is wooden or stone or brick pilaster attached to the wall. In the Malayālam commentaries we have consulted, there is not to be found employed any delimiting adjunct restricting the application of the term to only the top of the wooden pillar or to only the top of the pilaster. The reference is therefore applicable to the top of pillar of whatever nature. There may thus be noticed a great variation in the interpretations as given by Śaṅkara in his *Vimarśinī* and as furnished by others on the point in question. Leaving aside our text and its commentaries, and turning to other authors, there also we notice divergence in the matter of the interpretation of the term Daṇḍa. Parāśara, quoted by

227. *Vāstuvidyā*, Ch. VIII, st. 15, 16, 18

228. *Silparatna* (T. S. S. Ed.), Ch. XXI, sts 44-47

229. *Tantrasamuccaya-vivaraṇa* (Govt. Orient. Mss. Library, Madras), Ms R No. 1994

230. *Tantrasamuccaya* Text in Sanskrit with a commentary in Malayālam, Ms R, 4 128 (Govt. Orient. Mss. Library, Madras).

231. *Tantrasamuccaya* (Ch. II in Malayālam characters), page 12. (Published by S. T. Reddiar and Sons, Quilon, Travancore).

232. *Tantrasamuccaya—Śilpa Part*—(Page 23) in Malayālam character. (Published by K. V. P. Press, Kunnankulam, Cochin State).

Gurudeva,²³³ the authors of the *Manuṣyālayacandrikā* and *Silparatna* are of the view that Daṇḍa is the top measure of the pilaster. Thus Parāśara observes:—

कुड्यस्तम्भाग्रविपुलं यत्तद्वण्ड इत्युच्यते ।
तन्मानेन विमानानां सर्वाण्यङ्गानि मेयानि ॥

The *Manuṣyālayacandrikā*²³⁴ states:—

.... अग्रतारः ।
दण्डाख्यश्चोयमेतेन च कुहचिदथो मीयते दारुक्लृप्तौ
कुड्यस्तम्भाग्रतारोऽप्यथ तदवयवकल्पने दण्डसंज्ञः ॥

According to this text, the term is to be applied with reference to the nature of the pillar, wooden or otherwise.

The *Silparatna*²³⁵ states.—

कुड्यस्तम्भाग्रविपुलं यत् तद्वण्डमिति स्मृतम् ।
तेन मेयानि सर्वाणि विमानांशानि सर्वशः ॥

Here the application is restricted to the top-measure of pilaster. The *Kāśyapaśilpa*, *Mayamata* and *Mañjarī*, on the other hand, observe that Daṇḍa is the top-measure of the pillar and do not use the term in the restricted sense.

Thus the *Kāśyapaśilpa*²³⁶ says:—

अग्रपादविशालं तु दण्डमित्यभिधीयते ॥

The *Mayamata*²³⁷ observes:—

पादाग्रविपुलं यत्तु तद् दण्डमिति कथ्यते ॥
सर्वाण्यङ्गानि हर्म्याणां मानयेद् दण्डमानतः ।

The *Mañjarī*²³⁸ in similar strain employs it with reference to the top-measure of a regular pillar:—

पादाग्रविष्कम्भमुशन्ति दण्डम् ॥

233. *Gurudevapaddhati* (T. S. S. Ed.), Uttarārdha, Ch XXXI.

234. *Manuṣyālayacandrikā*, Ch. V, st. 24 (T. S. S. Ed.).

235. *Silparatna* (Part I, T. S. S. Ed.), Ch. XXI, 46.

236. *Kāśyapaśilpa* (Ānandāśrama Series), Patala VI, 15(2).

237. *Mayamata* (T. S. S. Ed.), Ch. XV; 28.

238. *Prayogamañjarī*, Patala VI (Palm Leaf Ms., Adyar Mss. Library, Madras).

STANZA 11.

Upapīṭha, an optional member beneath the Adhiṣṭhāna.

The author now proceeds to treat of the proportions of the 'Upapīṭha'. The term 'Upapīṭha' is derived from 'Upa' (under) and 'pīṭha' (seat). It refers generally to 'pedestal' of columns, platform of thrones and seats of images. But the member is frequently constructed beneath the 'Adhiṣṭhāna' or basement of the temple. Here, in our context, the term 'Upapīṭha' refers to the structure beneath the basement. This structure is not treated by Hindu architects as an indispensable part of the temple, for, as we have noted already, the principal parts of a temple, according to all authorities on Indian architecture, are six in number beginning with the 'Adhiṣṭhāna' (the basement) and ending with the 'Stūpikā' (the finial). The following stanzas from the *Gurudevapaddhati*,²³⁹ for instance, will illustrate the point:—

उच्छये चाष्टवा भक्ते स्यादधिष्ठानमंशतः ॥
 स्तम्भोत्सेधस्तु भागाभ्यां प्रस्तरश्चैकभागिकः ।
 कण्ठश्चांशेन शिखरं द्वाभ्यां स्थूपिस्तथांशतः ॥
 एवं धामैकतलकं 1

The above division does not include the Upapīṭha in the height of the temple. The height is measured from the basement to the finial exclusive of the Upapīṭha, which may be built, if desired, below the basement. Thus the basement forms the first member in the architectural division of an Indian temple, and the term 'Ādyanga'²⁴⁰ which is employed as a synonym of 'Adhiṣṭhāna' clearly indicates that the Upapīṭha is excluded from the list of the principal members of architecture. An Adhiṣṭhāna, it is further stated,²⁴¹ may be built with or without an Upapīṭha below. Gurudeva plainly speaks of the optional character of the Upapīṭha in the following lines:²⁴²—

239. *Gurudevapaddhati*, (Part III, T. S. S. Ed.), Uttarārdha, Patala XXX, Stanza's 60, 61, 62, for similar treatment, also vide the *Mānasāra* (P. K. Ācārya's Ed.), Chapters XIX, XX, *Śilparatna*, Chap. XXXVII, and other places where proportions of the main parts are given in relation to the total height of the temple.

240. *Gurudevapaddhati*, Uttarārdha, Patala XXX, 66, also vide *Kārikāgama*, LV, 202.

241. *Mayamata*, Chapter XXII, St. 33: सोपपीठमधिष्ठानं केवलं वा मसूरकम् ॥

242. *Isānagurudevapaddhati*, Uttarārdha, Patala XXX, st. 68, 69⁽¹⁾.

“ पूर्वमुक्तप्रकारेण स्थले दृढतरं चिते
 गर्भन्यासं च कृत्वादातुपपीठं तु योजयेत् ॥
 अधोऽधिष्ठानकानां स्यादुपपीठं भवेद् यदि ॥”

The *option* allowed in the case of the *Upapīṭha* indicates that it is not an indispensable member like the six main constituent parts, *Adhiṣṭhāna* (basement), *Pāda* (pillar), *Prastara* (entablature), *Gala* (neck), *Śikhara* (head), and *Stūpi* (finial). But, the *Upapīṭha*, when employed at the bottom of the basement, serves in three distinct ways and this three-fold function is described in the *Mayamata*²⁴³ in the following lines: —

अधिष्ठानस्य चाधस्तादुपपीठं प्रयोजयेत् ।
 रक्षार्थमुन्नतार्थं च शोभार्थं तत् प्रवक्ष्यते ॥

And in the *Gurudevapaddhati*²⁴⁴ in the following stanza: —

अधोऽधिष्ठानकानां स्यादुपपीठं भवेद् यदि ।
 उन्नत्यर्थं च शोभार्थं रक्षार्थं च विशेषतः ॥

Thus, it is clear from the foregoing references, that the *Upapīṭha*, according to architectural authorities, is not an indispensable member like the *Adhiṣṭhāna*, but a member that is left to the choice of the architect who desires to raise the height of the structure in order to give it an imposing appearance or add to its stability and repose or create situation for the exercise of his decorative skill.

Architecture, in the view of Indian builders, is not the science of building simply where principles are determined by the ends of edifice merely. It is an art which takes into account considerations of beauty and grandeur. Aesthetic qualities such as size, proportion and ornament are essential in a really fine building; for, the structure attains perfection only when these aesthetic elements are combined with the structural ones. Size excites in man the feeling of wonder, and height impresses him with a sense of majesty of human power. Proportion, which concerns with the dimensions of a building with respect to its several parts, gives the structure an appearance of stability and nice repose. Ornament is a source of pleasure to the eyes, and its absence betokens of an unpleasing poverty or baldness of human spirit. For, “ornament

243 *Mayamata*, Chapter XIII, 1.

244. *Gurudevapaddhati*, *Uttarārdha*, *Paṭala XXX*, Stanza 69.

is the flower-garden of human spirit, which it delights to tend." Indian architectural authorities lay emphasis on the three qualities of 'Rakṣā' (stability or security), *Unnatī* (height) and *Śōbhā* (beauty) in their theory of the art of architecture. Upapīṭha accordingly appears as an element born of certain aesthetic considerations and is consequently not a purely indispensable constructive member. Its presence or absence is regulated by requirements which are chiefly aesthetic in character.

Rām Rāz observes: "Western architects consider the base, not as a distinct member, but as a constituent part of the column; and this is not altogether at variance with the practice of Hindu architects, for they likewise include the base and capital in taking the height of the pillar, and even consider the pedestal as a necessary part of the order."²⁴⁵ Rāz does not seem to us to convey in clear and unmistakable terms the idea he intends to convey when he says that they 'even consider the pedestal as a necessary part of the order.' If by 'necessary' he means 'indispensable', then his statement is at variance with the texts we are considering. He appears inclined to the view that Upapīṭha is an indispensable part of the structure when he states: "The Hindu orders may be said to consist of four principal parts, namely, the *Upapīṭha* or pedestal, the *Adhiṣṭhāna* or base, the *Stambha* or pillar, and the *Prastara* or entablature."* The main parts, as we have observed more than once, are six in number and Rāz does not fail to take notice of these six principal divisions. For states he: "The height of *vimānas* is measured from the base to the apex, exclusive of the pedestal below, and is equal to one and a half of its breadth. Let the whole height be divided into eight equal parts; give one to the *adhiṣṭhāna* (base), two to the *pāda* (pillar), one to the *prastara* (entablature), one to the *grīvā* (the neck of the dome), two to the *śikhara* (cupola), and one to the *stūpa* (pinnacle)."²⁴⁶ If the pedestal is considered indispensable in a structure, how is it that it is not included in the architectural division set forth above? Moreover, if an Upapīṭha is supposed to form a principal part like the *Adhiṣṭhāna*, how is it that the synonym 'Ādyāṅga' is applied to the *Adhiṣṭhāna* and not to the Upapīṭha, which is placed at the bottom of the *Adhiṣṭhāna*? The *Prayogamañjarī*, an important source of our writer, does not refer to the Upapīṭha, whereas it would have received proper attention if it had been considered as a principal member of the structure. When employed, it is given a position beneath the *Adhiṣṭhāna*, the first part of a structure from its bottom. It is not considered as an essential part, as essential as the structural part *Adhiṣṭhāna* and hence it is not seen treated as a compulsory and necessary

245 Rām Rāz, *Essay on the Architecture of the Hindus*, p. 22 (*Italics ours*).

* *Ibid.*

246. Rām Rāz, *Essay on the Architecture of the Hindus*, p. 52.

part of the structure in the *Prayogamāñjarī*. It is not possible, therefore, to maintain that the Upapīṭha forms an indispensable part of a temple. There is no textual authority, as far as we see, which warrants such a view. The optional nature of the Upapīṭha, on the other hand, is clearly and unmistakably revealed by the phrase 'योजयेद्वा' which our author employs. The optional character of the Upapīṭha expressed by our writer's statement is in agreement with all the authorities we have consulted in this connection.

The varied proportions of height as set forth in this stanza are in close agreement with those laid down elsewhere in the *Mayamata* and *Kāśyapaśūlpa*. Thus in the *Mayamata*²⁴⁷ it is stated:—

समं त्रिपादमर्धं वा पञ्चांशद्वयंशमेव वा ।
 सपादं वाथ सार्धं वा पादोनद्विगुणं तु वा ॥
 द्विगुणं वा प्रकर्तव्यमात्ताधिष्ठानतुङ्गतः ॥
 आत्ताधिष्ठानतुङ्गाद् द्विगुणमथ समं सार्धमर्धं त्रिपादम् ।
 पञ्चांशद्वयंशकं वानलसमभजिते द्व्येकमत्रोपपीठम् ॥

In the *Kāśyapaśūlpa*²⁴⁸ the following lines are found:—

स्वाधिष्ठानसमोच्चं वा त्रिपादं वार्धमेव वा ।
 पञ्चभागेऽग्निभागं वा सपादं सार्धमेव वा ॥
 पादोनद्विगुणं वाथ द्विगुणं वा विशेषतः ।
 एवमष्टविधं ख्यातमुपपीठोच्छ्रयं द्विज ॥

On the basis of the texts quoted above and on the strength of the authority of the commentary 'Vivarana,' where पादांशवृद्ध्या is interpreted as अर्धांशेन त्रिपादांशेन इत्यारभ्य पादोनद्विगुणेन वेत्यर्थः, ²⁴⁹ the proportions laid down for the height of the Upapīṭha are $\frac{1}{3}$, $\frac{2}{5}$, $\frac{1}{2}$, $\frac{3}{4}$ of or equal to or $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, or 2 times the height of the basement. According to one Malayalam commentator K. Nilakanṭhan Āśāri,²⁵⁰ however, the height of the Upapīṭha is $\frac{1}{3}$, $\frac{2}{5}$ of or $1\frac{1}{2}$ or $1\frac{3}{4}$ or 2 times the height of the

²⁴⁷. *Mayamata* (T. S. S. Ed.), Ch XIII, 2, 3, 22.

²⁴⁸. Quoted from the *Vimarśinī*; compare the *Kāśyapaśūlpa* (Ānandāśrama Series), Patala V, stas. 1, 2, 3.

²⁴⁹. *Tantrasamuccayaavivarana* (Ms. Govt Orient. Mss. Library, Madras, Ms. R. No. 1994).

²⁵⁰. *Tantrasamuccaya* with Kerala Commentary (S T. Reddiar and Sons, Quilon), p. 12.

Adhiṣṭhāna. There is thus some difference in the interpretation of the part 'Pādāṁśavṛddhyā', but the former interpretation by the disciple of the writer, which is also in consonance with the proportions clearly laid down in previous texts, seems to be the more complete and the more authoritative.

The *Mānasāra* prescribes the following variety of heights to the Upa-pītha according to the magnitude of the edifices in which they are employed. Here the *Mānasāra* deviates much from the general line of prescription. The rules of proportion are embodied in the lines quoted below:—

Line 3. एते (तम्) तत्त्वमधिष्ठानं तुङ्गं तच्चतुरंशकम् ।
विभजेत्त्वादिमांशेन ए(चै)कैकांशं (श)विवर्धनात् ॥
तदष्टांशावसानं स्याज्जन्मादिपट्टिकान्ति(न्त)कम् ।
एवं हि चोपपीठोच्चं नवभिर्भेदमीरितम् ॥
अथवा द्वादशान्तं वा मध्यभूम्यन्तिकं क्रमात् ।

Line 8 अथवा क्षुद्रहर्म्ये तु चतुर्भागांशमु(गसमो)न्नतम् ॥
द्विभागं वा त्रिभागं वा चतुर्भागमथापि वा ।
पञ्चा(श्च)दशोदयं वापि रन्ति(शान्ति)कादिशरोन्नतम् ॥

Line 11. अथवा मध्यहर्म्ये तु द्विभागं वा त्रिभागिकम् ।
चतुर्भागं पञ्चभागं षड्भागावसानकम् ॥
शान्तिकं सर्वभूम्य(काम्या)न्तं पञ्चधोतुङ्गमीरितम् ।

Line 14. अथवा मुख्यहर्म्ये तु त्रयं वा चतुरंशकम् ॥
पञ्चांशं वा षडंशं वा सप्तांशं वावसानकम् ।

Line 16. एवं पञ्चविधं प्रोक्तं शान्तिकादिशरोन्नतम् ॥²⁵¹

The loose and dubious manner in which *Mānasāra* expresses himself renders any clear understanding difficult. Dr. Ācārya's attempt at translating the lines does not help us in any manner in making out any clear sense; on the other hand, it tends to convey ideas unsuited to the context. The following, probably, is the sense that can be squeezed out of the vague lines:—

251. *Mānasāra* (P. K. Ācārya's Edition), Chap. XIII, lines 3-16.

Lines 3-7: The Height of the Upapīṭha (of exceptionally big structures) is $\frac{1}{4}$, $\frac{1}{6}$, $\frac{1}{12}$, $\frac{1}{16}$, $\frac{1}{20}$, $\frac{1}{24}$, $\frac{1}{28}$, $\frac{1}{32}$ of the height of the basement.

This variety of proportions prescribed for the Upapīṭhas must necessarily apply to pedestals of structures which are exceptionally large-sized and which do not by virtue of their already big basement require any considerable raising in respect of the height of the basement. If this prescription is intended to raise the height of the basement of the small class of structures, the proportion prescribed is so insignificant that it hardly serves any real purpose.

Lines 8-10: The Height of the Upapīṭha of the Kṣudra or small class of structures:— $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$ (i.e. $\frac{1}{2}$, $\frac{3}{4}$ of or equal to the height of the basement).

Lines 11-13: The Height of the Upapīṭha of the Madhyama or mid-dling class of structures = $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, of the height of the basement.

The prescription here given, as in lines 3-7, is regressive in order. Prof. P. K. Ācārya²⁵² interprets 'dvibhāgam' 'tribhāgikam' etc. as two parts, three parts etc. The question then naturally arises, *three parts etc. out of a division into how many parts?* The divisor is not stated and as such the interpretation has no textual support. In this case of the absence of any reference to the divisor, 'bhāga' can be interpreted as one part only, and 'dvibhāga' and 'tribhāgika' etc., under such circumstances will have to be understood in the sense of one part out of a division into two parts, three parts etc. That is to say, 'dvibhāga' may be interpreted as half, 'tribhāgika' as one-third etc. Here, the numerals 2, 3 etc., are to be taken in the sense of ordinals on the analogy of expressions like 'tribhāga.' In expressions like 'tribhāga' which are commonly found in literature, the former numeral 'three' is understood in the ordinal sense of a 'third'. Such interpretation is not unusual in Sanskrit language,²⁵³ and on the model of 'tribhāga' the interpretation of 'tribhāgika' as one-third, 'caturbhāga' as one-fourth, in the absence of any explicit reference to the divisor, is not improbable. Perhaps, another alternative interpretation may be suggested in the wake of the division set forth in line 8. This is by taking the largest numerals, 6 in the case of Madhyaharmya and 7 in the case of Mukhyaharmya, as the divisor that is probably implied. This implication, if granted, 'dvibhāga,' 'tribhāgika' will have the ordinary sense of two parts, three parts etc. and the height of the Upapīṭha of

252. *Mānasūtra*, Translation by Ācārya, vide Translation of the relevant lines.

253. Compare for instance "Cakṛitaharī harinetratribhāgaḥ" in *Dhvanyā-lōka*—Udyōta III, Illustration 3.

the Madhyaharmya will be $\frac{2}{6}$, $\frac{3}{6}$, $\frac{4}{6}$, $\frac{5}{6}$, $\frac{6}{6}$ (i.e. $\frac{1}{3}$, $\frac{1}{2}$, $\frac{2}{3}$, $\frac{5}{6}$ or equal to the height of the basement, and that of the Mukhyaharmya $\frac{3}{4}$, $\frac{4}{4}$, $\frac{5}{4}$, $\frac{6}{4}$, of or equal to the height of the basement. This explanation is only a conjectural one. Of the two alternative tentative interpretations that we have suggested, the former seems to be the more probable and in tune with the principle that the greater the magnitude of the edifice the lesser is its need for any addition in height, and consequently the smaller is the proportion prescribed.

Lines 14-16: The height of the pedestal of Mukhyaharmyas (probably large class of buildings) is $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$ or $\frac{1}{7}$ of the height of the basement. According to this interpretation of the lines, the height of the pedestal, in any case, does not exceed the height of the basement in the view of Mānasāra. The conjectural interpretation attempted by Rām Rāz in his Essay needs to be revised. Rāz expresses at the outset the difficulty he experienced in understanding Mānasāra thoroughly. He remarks thus: "He (i.e. Mānasāra) divides the pedestals into three sorts, according to the magnitude of the edifices in which they are to be employed, and makes their height, if I understand him rightly, to consist of from one-quarter to six times the height of the base, and their projections as far as one-third of their own respective heights. But such a loose manner of prescribing rules for the dimensions of architectural members must be considered objectionable, and but little compatible with science and taste."²⁵⁴ The text of Mānasāra as we have considered and interpreted does not permit the propriety of these remarks.

In his Translation of the *Mānasāra*, Dr. Ācārya renders the term 'Upapīṭha' as "Pedestals of columns."²⁵⁵ Such a rendering is hardly permissible, as it restricts the application of the term Upapīṭha to pedestals of columns only and excludes from its connotation the pedestal of the structure proper. The trend of the text under observation further renders such a rendering incompatible with the context, as there is no reference at all to columns or their parts in the Chapter on the Upapīṭha. It will be to the point if we ordinarily translate the term 'upapīṭha' by the expression 'Pedestal', in which case the rendering comprehends fully all that the term widely and originally stands for. With reference to the present context, however, we might rightly render Upapīṭhavidhāna as 'chapter dealing with the subject of the Pedestal of temple or Pedestal of structure', but not as 'Pedestals of columns', as is done by Ācārya.

254. Rām Rāz, *Essay on the Architecture of the Hindus*, page 26

255. *Mānasāra*, Vol. IV, Translation, pp. 123-130.

The projection of the Upapīṭha functions in enabling the structure to stand securely and stably within its confines. It can be $\frac{1}{10}$, $\frac{1}{6}$, $\frac{3}{10}$, $\frac{2}{5}$ or half of the height of the basement or it can be measured with reference to the Daṇḍa measure which has been described in the previous stanza as 'चरणाग्रप्रदानः'. Accordingly the projection will be 1, $1\frac{1}{2}$, 2, or 3 Daṇḍas and it extends outwards from the Pāduka of the base, or Jagatī or the outer extension of the pillar. The measure of this projection may be compared with that laid down in the *Mayamata*, *Kāśyapaśulpa* and *Mānasāra*.

Thus the *Mayamata* observes:—

उत्सेधदशभागे तु एकेनैकेन वर्धनात् ॥
 पञ्चांशान्तमधिष्ठानजन्माद् बाह्ये तु निर्गमम् ।
 दण्डं वा सार्धदण्डं वा द्विदण्डं वा त्रिदण्डकम् ॥
 अधिष्ठानजगत्या वा समं तत्पादबाह्यकम् ।
 वेदिभद्रं प्रतीभद्रं सुभद्रं च त्रिधा मतम् ॥²⁵⁶

The *Kāśyapaśulpa* states:—

दशधा भुज्याधिष्ठानमेकद्वित्रिचतुष्टयम् ॥
 पञ्चांशं वाऽथ निष्क्रान्तमधिष्ठानस्य पादुकात् ।
 [दण्डं वा सार्धदण्डं वा द्विगुणं वा त्रिदण्डकम् ॥
 अधिष्ठानाज्जगत्या वा समन्तात् पादबाह्यतः ।]²⁵⁷

Mānasāra observes:—

Line 21. सप्ताष्टनवभागं वा दशमेकादशं तथा ।
 द्वादशैकार्कभागं वा चतुर्दशांशकमेव वा ॥
 पञ्चदशांशकं वापि विभजेत्तु विशेषतः ।
 तत्तद्भागैकभागं वा द्विभागं वा त्रिभागकम् ॥
 चतुर्भागं पञ्चभागं वा षट्सप्ताष्टकमेव च ।

Line 26. पूर्ववन्निर्गमं प्रोक्तं यन्मानोरम्यमानतः ॥

256. *Mayamata*, Chapter XIII, Sts 3-5

257. *Kāśyapa*, Patala V, St 3. The bracketed portion is from Śankara's *Vimarśinī*

Line 39. अथवा दण्डमानेन चोपपीठस्य निर्गमस् ॥

दण्डं सार्धं द्विदण्डं वा सार्धद्विदण्डमेव च ।

Line 32. त्रिदण्डं चार्धमाधिक्यं ॥²⁵⁸

स्वाङ्गमङ्गवाभिरामम्. The Upapīṭha must be beautified by its own *aṅgas*. The 'aṅgas' referred to here are the mouldings which enter into the composition of the pedestal such as the Pāduka, Jagatī, Kumuda, Gala, Prati and the like. The bare surface is broken up and resting place is created for the eyes. The lateral projections thus serve to add beauty to the pedestal and form a source of delight to the eyes. They constitute the chief ornaments of Indian architecture. According to some, the same mouldings which are set in the composition of the basement are also used in the formation of the pedestal. Thus Rām Rāz observes: "Both (the Upapīṭha and the Adhiṣṭhāna) are for the most part composed of the same mouldings; but the most remarkable feature in which they differ is the square dye, which is peculiar to the former."²⁵⁹ The outstanding illustration of the point may be sought in the Tanjore Temple where the same mouldings are employed in the basement and the pedestal.

Three kinds of pedestals are described in detail in the *Mayamata*,²⁶⁰ and *Gurudevapaddhati*,²⁶¹ they are termed there as 'Vedibhadra,' 'Pratibhadra' and 'Subhadra'. The *Mānasāra* also refers to three sorts called 'Vedibhadra,' 'Pratibhadra' and 'Mañcabhadra' and divides each of these into four varieties, each variety differing from the other in formation and in its mouldings. A detailed enumeration of the different parts forming the different kinds of pedestals is further supplied in the *Mānasāra*. The treatment of this subject by the author of the *Tantrasamuccaya* is brief and casual compared with that contained in other texts, which devote a separate chapter to the theme of Pedestal. The *Kāśyapaśilpa*²⁶² treats of five types called 'Bhadoopapīṭhaka,' 'Pratibhadraka' 'Pratisundara,' 'Saubhadra,' and 'Kalyānika.' The projection and parts of the Upapīṭha, it is remarked here, are like those that make the Adhiṣṭhāna.*

258. *Mānasāra*, Chapter XIII, lines 21, 26, 30 to 32

259. *Essay on the Architecture of the Hindus*, p. 23.

260. *Mayamata*, Chapter XIII, St. 5

261. *Isāna Gurudevapaddhati*, (Part III, T. S. S. Edition), Uttarārdha, Patala XXX, stanza 70.

262. *Kāśyapaśilpa*, Patala V, stanzas 9-27.

* *Ibid* , stanza 28. अङ्गनिष्क्रान्तवेशं च अधिष्ठानविधानवत् ॥

STANZA 12.

The height of Padma, another optional member beneath the Adhiṣṭhāna.

This stanza gives the dimension of Padma, which is constructed optionally beneath the Adhiṣṭhāna, and which occupies the same position in the structural division as the Upapīṭha, described in the previous verse. It is also known as Padma-Pāduka because, it is situated, when constructed, under Pāduka, the lowest part of the basement. Upānat referred to in the text is a synonym of Pāduka. In the Tri-vandrum edition of the text, the reading of this term is marked with doubt 'उपान(ड? ,द)न्ते' but the editor's suggestion that it must be 'उपानदन्ते'²⁶³ is acceptable. Upānat is the lowest moulding of the Adhiṣṭhāna. The member Padma which forms the subject of treatment in the present verse is to be counted in excess of the height of the building. It is independent of the structure in the inclusion of height and is an accessory element like the Upapīṭha, and not an essential one. The height of the Padma according to our text is $\frac{1}{4}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{7}$, $\frac{1}{8}$, or $\frac{1}{9}$ of the height of the basement. In support of this measurement the following authority is found quoted by Śaṅkara:—

“अधिष्ठानसमुत्सेधाद् वेदांशं दर्शनाष्टकम् ।
नन्दपातालभूतांशमेकांशं पद्ममायतम् ॥
पूर्वभूमिगतं पद्मं प्रासादानां प्रशस्यते ॥”

Similar treatment of Padma as an independent element, which is a substitute for the Upapīṭha is not to be found in the *Mayamata*, *Gurudevapaddhati*, *Mānasāra* etc. Padma, however, is usually seen treated as a part or moulding of the Upapīṭha or the Adhiṣṭhāna in several treatises. Rām Rāz, aware of its employment as a moulding, thus observes and describes it: “The moulding called *Padma*, literally lotus, is supposed to resemble a petal of that flower. It is a sort of compound figure, partly convex and partly concave; and its section is composed of two opposite curves, meeting at the bisecting point of a line drawn between the points of recess and projections, and very much resembling the *Cima recta* and *reversa* of the western architects. This moulding is distinguished into greater and less, and forms the principal ornament of Indian architecture. It is generally employed in detached pairs in bases and cornices, one facing the other in opposite directions, and is formed upright or the reverse according to its situation, either as a crowning

263. *Tantrasamuccaya* (T. S. S. Edition), Part I, page 54.

member of the former or the supporting ornament of the latter. The concave part of it, when placed with its bottom reversed, is often so designed as to project forward or rise up, after having touched, as it were, the fillet below, with a small perpendicular curvature, resembling in shape the petal of the lotus, with its pointed head somewhat inclined towards the top. In some specimens, this moulding is placed at the base of columns, and looks very much like an *apophyge* or ogre of the Ionic and Corinthian orders, being formed either with a curved line having more or less convexity at the top, or with an upright tangent to the concave part below. It is sometimes made exactly in the form of an ovolo of the western architects."²⁶⁴

In our text in the present context, Padma is described as an optional member beneath the basement like the Upapiṭha and not as one among the mouldings of either the Upapiṭha or the Adhiṣṭhāna. It is thus treated here as a distinctive element. It is called Padma, because it resembles the petal of that flower. Lotus as an ornamental motif figures as a prominent element in the heritage of the artistic glories of India. Rich in its wealth of decorative value, amazing is its symbolical significance, for it represents divine beauty, goodness and purity. As Havell observes: "The shining lotus flowers floating on the still dark surface of the lake, their manifold petals opening as the Sun's rays touched them at break of day, and closing again at sunset, the roots hidden in the mud beneath, seemed perfect symbols of creation, of divine purity and beauty, of the cosmos evolved from the dark void of chaos and sustained in equilibrium by the cosmic ether, *ākāśa*"²⁶⁵. Continuing, Mr. Havell further remarks on the symbolism of this flower. "The bell-shaped fruit was the mystic Hiranyagarbha, the womb of the Universe, holding the germ of worlds innumerable still unborn. The lotus was the seat and foot-stool of the Gods, the symbol of the material universe and of the heavenly spheres above it. It was the symbol for all Hinduism, as the mihrab was for all Islam."*

STANZAS 13, 14, 15.

Adhiṣṭhāna

In these stanzas (13, 14, 15), the author treats of the parts of the Adhiṣṭhāna and lays down the rules of their proportion. The term 'Adhiṣṭhāna' is derived from the root 'Sthā' (to stand) preceded by

²⁶⁴ Rām Rāz, *Essay on the Architecture of the Hindus*, pp 23-24.

²⁶⁵ *Indian Architecture*, page 15.

* *Ibid.*

the preposition 'adhi' (upon). Its derivation as described will be अधि+
स्था+अधिकरणे ह्युट्-अधिष्ठीयतेञ्च ॥ Gurudeva²⁶⁶ describes the term thus :

प्रासादस्तु निजैरङ्गैरधितिष्ठति यं सदा ।

दृढं शिलादिघटितं तदधिष्ठानसंज्ञितम् ॥

It therefore denotes the object on which the edifice rests (i.e. the basement). The Adhiṣṭhāna thus is the lowest member of a building, the first from bottom upwards as the synonym 'Ādyaṅga' indicates. It is the strongest, firmest and the most solidly laid, and carries the weight of the remaining parts of the structure built above.

Māsūraka, *Vāstvādhāra*, *Ādyaṅga*, *Ādhāra*, *Tala*, and *Kuṭṭima* are some of the synonyms of 'Adhiṣṭhāna' stated in the *Śilpaśāstras*. The synonyms as given²⁶⁷ in the *Gurudevapaddhati* are:

मसूरकमधिष्ठानं वास्त्वाधारं च कुट्टिमम् ।

तलं चाधङ्गमिति च शब्दाः पर्यायवाचकाः ॥

and as stated in the *Kāśyapaśilpa*²⁶⁸ are :

धरातलमधिष्ठानमाधारं धरिणी तथा ॥

भुवनं पृथिवी भूमिः पर्यायवचनादिभिः ।

Adhiṣṭhāna is classified into different types under various denominations on the basis of difference in dimensions of its mouldings or the presence or absence of one or other of its mouldings. The treatment of mouldings is a very important contribution to the elaboration and enrichment of the basement and the stability and impressiveness of the structure. The mouldings afford basis for a great variety of basement, according as they are included in or excluded from the division of the basement. By stretching the basement beyond the line of vertical structure they prevent the superstructure from looking top-heavy. By spreading the basement they provide a larger bearing surface for the distribution of the load of the super-structure and produce an effect of greater stability and strength of the edifice. The lateral projections, again, tend to accentuate the horizontal division, and keep the 'uttara' well within the limits of the basement. They break the monotony in structure, create resting places for

266. *Isāna Gurudevapaddhati* (T. S. S. Ed., Part III), Uttarārdha, Ch. XXX, st. 67.

267. *Ibid.*, stanza 66.

268. *Kāśyapaśilpa* (Ānandāśrama Series), Patala VI, 12 and 2.1

the eye and provide room for a variety of miniature adornments, and floral and other motifs which lend beauty to the structure. In certain situations as in the form of Patta or band, the moulding presents flat surface for the profuse use of carved ornament, which enriches and enhances the grace of the building. Over and above the structural function which the mouldings discharge, they are chiefly ornamental in character. They blend in them both the aspects of utility and beauty.

One cannot but marvel at the intellectual and aesthetic endowment of the ancient architects, at whose hands architecture was both a system of construction and a vision of beauty, a system in which are combined in perfect unity both the science and art of architecture. Architecture, it must be remarked, is both a science and an art, and those who think of it in terms of construction merely, give only a very narrow interpretation of the office of architecture. The Hindu builders never contemplated with satisfaction a building which is divorced from ornament. Ornament enters into the very essence of composition and nowhere is the kinship of art and science so well exemplified as in a typically Hindu structure. The intellectual side of design which they exhibited in the mouldings worked out their structural scheme fully and the aesthetic sense which they expressed in these mouldings made their work a thing which is as gracious as it is scientifically perfect. This synthetic attitude which the Hindu builders displayed in their work is the keynote of Hindu culture, for it is evidenced in all other activities of the Hindus.

The various mouldings as they are found referred to in the stanzas 13, 14, 15 and 16 are Pāduka, Jagatī, Kumuda, Gala, Antari, Kampa, Pattikā or Paṭṭa, Prati and Vājana. We shall give below a description of each.

Pāduka (literally means a sandal). In architectural texts, it refers to the lowest moulding of the basement or the pedestal. It is rectangular in shape. It is also known as *Upānat*. 'Janman' is another term which refers to the plinth. It corresponds to the 'plinth', both in the import of the term and the purpose to which it is applied. It forms one of the five main mouldings which are enumerated in the following texts:

(1) *Kāśyapa*²⁶⁹ :—

उपानं जगती कुम्भं खण्डं च पट्टिका तथा ।
पञ्चवर्गमिति ख्यातं ॥

269. *Kāśyapaśilpa*, Patala VI, st 22 (The *Ānandāsrama* text reads कृप ; the correct reading is कुम्भ and this is found to agree with the statement of the *Śilparatna* on the subject).

(2) *Śilparatna*²⁷⁰ :—

उपानं जगतीकुम्भं कन्धरं प्रस्तरं तथा ।
पञ्चवर्गमिति ख्यातमाद्यङ्गानां विशेषतः ॥

(Incidentally, it may be pointed out that ‘ उपानह् ’ is the older form ; and ‘ उपानम् ’ used in architectural literature seems to be a corruption resulting from the transfer of ‘ उपानह् ’ to the ‘a’—de-
clension).

It figures almost universally in the description of the different kinds of basement and should therefore be considered as an important moulding. But there are instances where it is subjected to option. Thus some alternative statements are found according to which ‘Upānat’ may be dispensed with. Kāśyapa²⁷¹, for instance, observes :—

पादबन्धमिति ख्यातमुपानरहितं तथा ॥
तदेवं पक्षभागे तु उपानं परिकीर्तितम् ॥

The *Śilparatna*²⁷² similarly states :—

पादबन्धमिदं ख्यातमुपानरहितं तु वा ।
उपानरहितं सर्वं यथोक्तं प्रकरोतु वा ॥

Of the four types of basement described in the *Tantrasamuccaya*, the last two begin with the moulding called ‘Jagatī,’ and not Upānat. Upānat differs from Jagatī in the extent of projection as well as height.²⁷³

Jagatī.—This moulding of the basement or pedestal, rectangular in form, stands out beyond the Mānasūtra as much as it is high. The Vivaranakāra tells us that it is a tall type of moulding which is rectangular in shape. ‘जगती नामोन्नतचतुरश्राकारा’. It is referred to by our author in all the four varieties of basement described and hence forms one of the prominent mouldings in the view of Nārāyaṇa. It also finds frequent mention in the *Kāśyapaśilpa*, *Mayamata*, *Mañ-*

270 *Śilparatna*, Ch. XIX, st. 3

271. *Kāśyapaśilpa*, Patala VI, st 35(2), 39(2).

272. *Śilparatna*, Ch XIX, sts 27(2), 38(2).

273 *Tantrasamuccayavivaraṇa* (Ms R No. 1994, Govt. Orient. Mss. Library, Madras).

jarī, *Gurudevapaddhati* etc. in connection with the description of the basement. There is no reference to this moulding in the *Mānasāra*; and this absence of reference is all the more conspicuous in view of the fact that the list of mouldings given therein is more elaborate than that furnished in other texts.

Kumuda:—Etymologically, the term 'Kumuda' means ('exciting') *what joy*²⁷⁴ It refers, in ordinary literature, to *Nymphaea esculenta*, the esculent white water-lily, 'the thing of beauty', a source of 'joy for ever'. In architectural literature, it refers to a moulding of the basement or the pedestal, and belongs to the section of circular mouldings. It is a semicircle projecting from a vertical diameter, and corresponds to the 'astragal' or 'Torus' of the Western architects.²⁷⁵ Regarding its shape, Kāśyapa describes two forms, circular and octagonal. Adhiṣṭhāna is divided into two main classes by Kāśyapa, known as 'Pratibandha' and 'Pādabandha'. "Kumuda" of the former class is 'circular' and that of the latter class 'octagonal'. Thus it is observed in the *Kāśyapaśilpa*:²⁷⁶

सर्वेषां प्रतिबन्धानां कुमुदं वृत्तमुच्यते ।
पादबन्धतलानां तु वस्त्रं कुमुदं भवेत् ॥

The *Śilparatna*²⁷⁷ also states the same thing but further describes the two forms in the following stanzas²⁷⁸:

कुमुदोच्चे षडंशे तु पादबन्धतले पुनः ॥
अधःपट्टं तदेकांशं मध्यपट्टं त्रिभागतः ।
ऊर्ध्वपट्टं तथा द्वाभ्यामेवं वाष्टाश्रमाचरेत् ॥
यथा तुल्यत्वमश्राणां तथा वा कारयेत् पुनः ।
सम्पूर्णगर्भिणीक्रोडतुल्यं स्यात् प्रतिबन्धके ॥

Kumuda, in the Pratibandha class, is round and resembles, according to the *Śilparatna*, the full-blown breasts of a woman in her full pregnancy. In the instance of Pādabandha, it is octagonal; the lower Paṭṭa is one-sixth of the height of the Kumuda, the central Paṭṭa half and the

274. *Sanskrit-English Dictionary*, by Monier Williams.

275. *Essay on the Architecture of the Hindus*, p. 23.

276. *Kāśyapaśilpa*, Patala VI, St. 26

277. *Śilparatna*, XIX, 4, 5.

278. *Ibid*, stanzas 98-100.

upper Paṭṭa one-third ; or each side of the octagonal moulding may be equal to the other. The Kumuda as described here presents a convex appearance, and corresponds to the 'astragal,' which as defined by Stratton "is a small convex moulding, when plain more often called a bead, and often curved with bead-and-reel enrichment."²⁷⁹

Mānasāra,²⁸⁰ under the class called 'Kumudabandha' refers to purely circular, triangular, hexagonal and octagonal Kumuda.

As described by the disciple of our author, Kumuda is round like a pot: 'कुमुदं कुम्भवदवृत्तम्'²⁸¹, and this seems to be the most commonly accepted shape. Though the author has not specifically described the shape, from the commentary 'Vivarana,' it appears probable that the view of the commentator is also the view of the writer.

The projection of Kumuda is as much as that of 'Jagatī.' Thus the *Mayamata* states :— यावज्जगतिनिष्क्रान्त तावत् कुमुदनिर्गमम् ॥²⁸² The basement in which Kumuda is absent is called Mañcaka. Says the *Śilparatna*: 'कुमुदेन विना कार्यं यत् तन्मञ्चकमुच्यते'²⁸³. Its absence is more to be sought in the case of the basement of human dwellings than in that of the temple, in whose architecture ornamentation is a rule.

Among the mouldings described, Kumuda like Padma, figures prominently and is valued richly both for its form and its symbolic content. Mr. Havell thinks that in its symbolical implication, it embodies the conception of "the Jar which contained the *amṛta*, or elixir of immortality, the nectar of the Gods; and thus its form was adapted not only to sacrificial vessels, but to the ordinary Indian domestic water-pot, the *loṭa*. The shape of it was as admirably adapted for making a firm base to a pillar or column as the form of the *Nelumbium* fruit was suitable for the structural purpose of the capital."²⁸⁴ A serious student of India's art-designs should first of all know the nature of the relationship of Indian Art with Nature. Like all real artists, the Indian artist was a worshipper of Nature, the gracious giver of beauty to humanity. In communion with Nature he felt supreme satisfaction and the charm and softening influence that she exercised on his creative soul found response in his endeavour to *re-create* those things of beauty which constitute the wealth of

279. *Orders of Architecture* by Stratton, p. 43.

280. *Mānasāra*, Ch. XIV, 77-79.

281. *Tantrasamuccaya Vivarana* (Ms. R. No. 1994, G. O. M. L., Madras).

282. *Mayamata*, XIV, 41

283. *Śilparatna*, XIX, 4.

284. Havell's *Indo-Aryan Civilisation*, page 60.

Nature. Her impact on his creative mind is traceable in his decorative patterns, which he shaped mostly in Nature's mould. In flowers like the Padma and the Kumuda he saw fitting models for the creation of ornamental motifs. The white water-lily, one of the products of Nature in her lavish moods, struck his imagination and kindled in him fine sensibilities. The joy it excited was too deep for words, too profound for expression, as the etymology of the term Kumuda (exciting what joy!) suggests. This thing of beauty, the seat of the charm of the Universal life, was admirably treasured by the Indian artist in his art legacy by fashioning his moulding after the form of this flower. The etymological implication of the term 'Kumuda' testifies to the inner nature of the artist's experience. The Indian artist in his search for beauty was not content with a mere optical beauty. His vision penetrated the interesting outside and entered into the very spirit of the object loved. He felt its power and felt himself part of it. In his relationship with Nature, he rose above simple use of nature to intense love of Nature and discovered in her the charm and loveliness of the Life Universal, charm which is more felt and experienced than expressed or described. This is the meaning, the etymological implication, of the term 'Kumuda'.

Gala (also called by synonyms such as *Kandharā*, *Grīvā* and *Kauṭha*) literally means the neck. This moulding, rectangular in form, is employed between mouldings. Its chief office is to connect or to separate mouldings, by virtue of its position always between them. According to a Malayālam commentary²⁸⁵ on the *Tantrasamuccaya*, *Gala* is conspicuous by the absence of any projection, for it is the only moulding that has no projection. This point has been stressed there and particularly stated, though there is no obvious reference to it in the text on 'Projections.' All mouldings as stated in the stanza on Projection 'यावत् स्थायोच्चमानम्' etc. have their projection started from the outer limit of the *Mānasūtra*, which is in other words, the extent of the 'uttara.' *Gala*, which has no projection, naturally would end, corresponding to the outer limit of the 'uttara'. It might be consequently observed that the projections of the rest of the mouldings might be measured from the outer limit of this member 'Gala.' Rām Rāz agrees on this point when he remarks: "and.it (i.e. *Gala*) serves as a sort of neutral member, from which the projections of the rest of the mouldings are measured."²⁸⁶ Two Malayālam commentators K. Nīla-

285. Govt Oriental Mss. Library, Madras, Ms. R. No. 4128.

286. Rām Rāz, *Essay on the Architecture of the Hindus*, page 25.

kaṇṭhan Āsāri²⁸⁷ and K. Dāmodaran Nambūdirippād,²⁸⁸ however, are at variance on this point; they include Gala in the list of mouldings having projection. The remarks of Rām Rāz and the first mentioned Kerala commentator (the author of the Malayālam Commentary, Ms. G.O.M.L.) appear more probable and consistent with the distinctive function that Gala discharges as a link between two mouldings.

Antarita: —, as its etymology suggests, comes between two mouldings. It is an intermediate moulding, separating other mouldings. K. Nīlakaṇṭhan Āsāri and K. Dāmodaran Nambūdirippād and others do not treat it as distinct or different from Gala, already described. They take it as identical with Gala, and call it by the other term Gala. If we identify it with Gala, then we have to take it as a neutral member which has no projection or recession. But Rām Rāz speaks of its recession when he says that it has as much recession as the Āliṅga has projection.²⁸⁹

Khaṇḍa is also identified with Gala.

Kampa is a small moulding of rectangular section, employed in a variety of positions, chiefly connecting or separating the principal mouldings. It has the least altitude, and it distinguishes itself from Gala in that it possesses projection. Its projection is usually equal to its height, but it can vary according as grace demands. It corresponds to the fillet of the western architects.

Paṭṭa or Paṭṭikā. — signifies the band, which is generally associated with other mouldings such as Kumuda, Gala and the like. It is a flat moulding and presents a situation for the enrichment and adornment of the basement with ornamental motifs like Makarāśya, Simha etc. When repeated, the upper band is known as “Ūrdhvaṭṭikā” and the lower band “Adharaṭṭikā.” That which has greater height and projection is called ‘Mahāṭṭikā’ and that which has smaller proportion ‘Kṣudraṭṭikā.’ Sometimes it appears as the top-most moulding of the basement. It has projection which is generally equal to its height; but, it frequently may have projection which is three-fourth, half or even one-fourth of its altitude as taste requires. Its height and projection are greater than the height and projection of the Kampa. When employed in pedestals and basements, it is scarcely distinguished from the moulding called Vājana. Thus Rām Rāz remarks: “It is often confounded with the moulding called Vājana, especially in pedestals and bases, as it appears to be of the same form, to be used in the same situation, and to have the same height and

287. *Tantrasamuccaya* (Malayālam Ed. published by S. T. Reddiar and Sons, V. V. Press, Quilon).

288. *Tantrasamuccaya* (Malayālam Ed. published by K. V. P. Press, Kunnamkulam).

289. *Essay on the Architecture of the Hindus*, page 25.

projection with the latter; but when employed in architraves and friezes, its height and projection increase considerably.”²⁹⁰

Prati:—This moulding, rectangular in form, figures sometimes as a crowning moulding; but usually it appears in association with the crowning moulding called *Vājana*. Thus in almost all varieties of *Pratibandha* class described in the *Kāśyapaśilpa* it is found employed in company with the crowning moulding *Vājana*. In measurement it either equals or excels the *Vājana*. Thus it may be distinguished from the *Vājana* by the greater height it commands over it. Generally as evidenced from the *Kāśyapaśilpa* and *Mañjarī* and other works, it is placed next to the *Vājana* (i.e. just below *Vājana*); but our author places it above the *Vājana* in the type ‘*Pratyutpannakrama*’ as he prefers to call it. In the Malayālam rendering no line of distinction is drawn between *Prati* and *Paṭṭikā*; both the terms are translated by the common expression *Padi* in Malayālam. The rule of projection is as described under the note on *Paṭṭikā*.

Vājana:—This moulding called *Vājana* is treated as the top-most or crowning moulding of pedestals and basement.²⁹¹ In the final variety called *Pādabandha*, our author also treats it as the crowning moulding. It is rectangular in form, like the *Kampa*, but is distinguished from the *Kampa* by the greater projection that is given to it. The general rule of projection is applicable to this moulding as well, but compared with the *Kampa*, its dimension is found increased in view of its importance as the crowning moulding of the basement.

The several mouldings, as they are referred to in the course of the description of the basement in the *Kāśyapaśilpa*, *Mayamata*, *Mañjarī*, *Gurudevapaddhati* and *Mānasāra*, may be compared with those found mentioned in the *Tantrasamuccaya*. We shall give below a list of those mouldings which we meet with in the course of our reading of each text on the basement. We have included here mouldings major as well as minor and have not drawn any line of distinction between the major class and minor class. While going through the detailed description furnished in each text, it will be remembered that the minor mouldings are generally found repeated, if repetition were found necessary.

In the *Kāśyapaśilpa* and other texts the following mouldings as included in the accompanying table are found referred to:—

290. *ibid.*

291. Vide the list of mouldings furnished in the *Kāśyapaśilpa* under *Pratibandha* class in the *Mañjarī* and *Gurudevapaddhati*.

I. Kāśyapa.	II. Mayamata.	III. Mañjarī.	IV. Gurudeva.	V. Mānasāra.
Pāduka.	Janman.	Pāduka.	..	Pāduka.
..	Vapraka	.	..	Vapraka.
Jagatī.	Jagatī.	Jagatī.	Jagatī.	..
Padma.	..	..	Padma	Padma.
Kumuda.	Kumuda.	Kumuda	Kumuda.	Kumuda.
Kumbha	Kumbha.	..	..	Kumbha.
..	Kapota.	.	..	Kapota.
Gala	Kandhara— (Synonym of Gala).	Gala	Gala	Gala
Antarita Khanda. }	Antari	Antari. Khanda. }	Antari.	Antari.
Kampa	Kampa	..	Kampa	Kampa.
Ālinga.	Ālinga.	Ālinga	Ālinga.	Ālinga.
Patta or Pattikā. }	Patta or Pattikā }	Pattikā.	Pattikā	Patta or Pattikā. }
Prati	Pratimukha	Pratimukha.		Pratīvājana.
Vājana.	Vājana.	Vājana.	Vājana.	Vājana.

Sometimes Pāduka is referred to by its synonym Upānat; Padma by its synonyms Ambuja, Kamala, Pañkaja or Abja; Kumbha by its synonyms Ghata and Kalaśa; Gala by its synonyms Kañtha and Kandharā. Some more mouldings found mentioned in the Mānasāra and not mentioned in the Kāśyapaśilpa, Maya, Mañjarī and Gurudeva are:—Karṇa, Gopāna, Kṣepaṇa, Amśa, Nimna, Argala, etc.

The four varieties of Adhiṣṭhāna as described in our text are as stated below:—

I Unnamed- 24 Parts	II Unnamed- 21 Parts	III Pratyutpanna- krama 12 Parts.	IV. Pādabandha 12 Parts
Pāduka—3	Pāduka—3	..	..
Jagatī—8	Jagatī—7	Jagatī—4.	Jagatī—4.
Kumuda—7	Kumuda—6. Kumudapattikā—1	Kumuda—4. Pattikā—1.	Kumuda—4. Pattikā—1.
Gala—1½	Gala and Pada—2.	Antari—1.	Kandharā—1½
Kampa—1½	Ksudrapattikā—½.	Vājana—1.	Vājana—1½.
Gala—1½	..	..	..
Paṭtikā—1½	Mahāpattikā—1½.	Prati—1.	..
Total—24.	Total—21	Total—12.	Total—12.

The parts mentioned are the result of the division of the total height of the basement, and the mouldings described are to be constructed from bottom upwards.

The types of basement dealt with in the *Mayamata* are fourteen in number:

अधिष्ठानं मयः प्राह चतुर्दशविधं पृथक् ॥²⁹²

They are:²⁹³—

- | | |
|------------------|-------------------|
| 1. Pādabandha. | 8. Śrikānta |
| 2. Ugrabandha. | 9. Śrēṇibandha. |
| 3. Pratikrama. | 10. Padmabandha |
| 4. Padmakesara. | 11. Vaprabandha. |
| 5. Puṣpapuṣkala. | 12. Kapotabandha. |
| 6. Śrībandha. | 13. Pratibandha. |
| 7. Mañcabandha. | 14. Kalāśabandha. |

The description of the fourteen types ends with the following stanza:—

एतानि भेदैस्तु चतुर्दशैव प्रोक्तानि तज्ज्ञैस्तु मसूरकाणि ।
सर्वाणि नास्यङ्घ्रियुतानि युत्तया दृढीकृताङ्गानि मयोदितानि ॥²⁹⁴

The *Kāśyapaśilpa* refers to over 22 types,²⁹⁵ and these are broadly classified under the two classes Pratibandha and Pādabandha (or Aṅghri-bandha). Thus states the *Kāśyapaśilpa*:—

अधिष्ठानं द्विधा ज्ञेयं प्रतिबद्धाङ्घ्रिबन्धनम् ।
प्रत्येकानां तु भेदेन प्रोच्यते द्विजसत्तमाः ॥
सर्वेषां प्रतिबन्धानां कुमुदं वृत्तमुच्यते ।
पादबन्धतलानां तु वस्वश्रं कुमुदं भवेत् ॥

The following are the names of the varieties as given there:—

- | | |
|-----------------|-------------------|
| 1. Pratibandha. | 4. Pratikrama. |
| 2. Pādabandha. | 5. Ambhojakesara. |
| 3. Prativaktra. | 6. Puṣpapuṣkala. |

292. *Gurudevapaddhati* (T. S. S. Edition), Part IV, XXXI, 1.

293. *Mayamata*, Chapter XIV.

294. *Mayamata*, XIV, 38

295. *Kāśyapaśilpa*, VI, stanzas 25, 26.

- | | |
|-------------------|-------------------|
| 7. Śrībadhānta. | 15. Karīrabandha. |
| 8. Mañcamantha. | 16. Kalaśabandha. |
| 9. Śrīkānta. | 17. Śrīkara, |
| 10. Śreṇibandha. | 18. Sundarāmbuja. |
| 11. Abjabandha. | 19. Nalinakānta. |
| 12. Vaprabandha. | 20. Śrīsaundarya. |
| 13. Pratisundara. | 21. Skandaskanda. |
| 14. Śrīkaṇṭhānta. | 22. Ambujakānta. |

The description of these varieties concludes with the stanza:—

एवं त्वनेकभेदेन प्रोच्यते तु धरातलम् ।
तलोत्सेधमिवात्र स्याद्धीनाधिक्यं न दोषभाक् ॥

The *Mañjarī* treats of two kinds of Adhiṣṭhāna called Pādabandha and Pratīkrama.

Gurudeva²⁹⁶ refers to the classification given by Maya and Parāśara. He thus states:—

अधिष्ठानं मयः प्राह चतुर्दशविधं पृथक् ।
पराशरोऽपि द्विविधं त्रिविधं च परे जगुः ॥
पराशरोक्तं द्विविधं पादबन्धं प्रतिक्रमम् ।
एकैकं तच्चतुर्भेदं यतोऽष्टविधमुच्यते ॥*

The eight types quoted there are:—

- | | |
|-----------------|------------------|
| 1. Pādabandha. | 5. Pratibandha. |
| 2. Vaprabandha. | 6. Nāgabandha. |
| 3. Cārubandha. | 7. Śrībandha. |
| 4. Puṣkala. | 8. Kapotabandha. |

Mānasāra²⁹⁷ enumerates not less than 64 different sorts under 19 technical class names:—

- | | |
|------------------|------------------|
| 1. Pādabandha. | 5. Padmakesara. |
| 2. Ugrabandha. | 6. Puṣpapuṣkala. |
| 3. Pratīkrama. | 7. Śrībandha. |
| 4. Kumudabandha. | 8. Mañcabandha. |

296. *Gurudevapaddhati* (T S S Ed., Part IV), Chapter XXXI;
* *Ibid.*, stanzas 1 and 2.

297. *Mānasāra*, Chapter XIV, lines 10-372.

- | | |
|-------------------|-------------------|
| 9. Śrēṇibandha. | 15. Ratnabandha. |
| 10. Padmabandha. | 16. Paṭṭabandha. |
| 11. Kumbhabandha. | 17. Kaṣkabandha. |
| 12. Vaprabandha. | 18. Kampabandha. |
| 13. Vajrabandha. | and 19. Śrīkānta. |
| 14. Śrībhōga. | |

A comparison of these several texts shows that these treatises more or less agree in respect of nomenclature, though they differ in the matter of details connected with the measures of the different basements. Each text adopts its own line of measurement, but in the midst of this variation of details, there is manifested uniformity in respect of terminology. The author of the *Tantrasamuccaya* follows mainly the *Mañjarī* and *Kāśyapaśilpa* in the matter of details connected with the proportions of the parts of the mouldings, but he is mostly silent on the side of the terminology relating to the types of basement. With regard to the treatment of mouldings, it might be observed that the mouldings as described in the *Tantrasamuccaya* are among the major and most commonly accepted ones. In the *Tantrasamuccaya*, the first two types of basement have no names associated with them. As regards the third type, the author prefers to give his own nomenclature. 'Pratyutpannakrama' is an elaboration or modification of the term 'Pratikrama,' for his statement here is based on the authority of the *Mañjarī* which calls the type by the name 'Pratikrama'. In respect of both the proportions of the mouldings of the fourth variety of basement and the denomination thereof, the author is in agreement with the treatment found in the *Mañjarī*. The second type is also described in the wake of the statement of the *Mañjarī*. This type is unnamed in both the works, *Tantrasamuccaya* and *Mañjarī*. Concerning the treatment of the first variety, it is said in the '*Vimarśmā*' that the author has followed Kāśyapa. In the edition of the *Kāśyapaśilpa* of the Ānandāśrama series, however, the stanzas found quoted in the commentary are missing. The description of the Pratikrama type furnished in the Ānandāśrama edition differs from the description of the same set forth in the text quoted in the commentary. A Malayalam commentary in Manuscript²⁹⁸ form calls the first two types by the names 'Prakṛtikrama' and 'Pādakrama'. This terminology, though fanciful at sight, is yet convenient. It is needless to seek for a fixed nomenclature in this connection, for any difference in denomination or even an omission of it scarcely affects the understanding of the structural aspect of the basement. Any deviation in respect of terminology pertaining to the types on the basis of difference in the details of treatment,

may be passed over without any prejudice to the scientific side of the treatment, in view of the latitude enjoyed by different authorities in the matter of certain details. Authors are at variance in respect of elaborations and modifications, but in the fundamentals of the subject they are found in agreement.

We shall compare the author's treatment of the four types with similar treatment found elsewhere. The following text of the *Kāśyapa* quoted in the *Vimarsinī*²⁹⁹ may be compared with the description of the first type:—

“अधिष्ठानोत्सेधमत्र चतुर्विंशतिभागतः ।
त्रियंशं पादुकं विद्यादष्टांशं जगती भवेत् ॥
कुमुदं सप्तभिः कुर्यात् षड्भागं प्रति चोच्छ्रयम् ।
प्रतेरुच्छ्रयमेवं तु दशभागे कृते पुनः ॥
त्रिभागं कुमुदं पट्टं स्याद् द्वयंशे कण्ठपट्टिका ।
त्रियंशेऽन्तरितं तस्या वाजनं च द्वियंशकम् ॥
सिंहव्यालगजेन्द्रैः स्यात् प्रतिभूषणसंयुतम् ।
प्रतिक्रममिदं चैव अधिष्ठानोत्तमं विदुः ॥”

Compare the stanza वास्त्राधार etc. laying down the rules of the second variety with the stanzas of the *Mañjarī*, quoted below:—

“कुर्यादधिष्ठानमथैकविंशै(रंशै)र्विभक्तं तिथिहस्तगेहे ।
अंशत्रिकैः कल्पितपादुकं च सप्तांशकलसां जगतीं विदध्यात् ॥
षड्भिर्विदध्यात् कुमुदं तथैकभागेन कुर्यादथ पट्टिकां च ।
आलिङ्गरूपां गलपादमंशद्वयेन सम्यग् विदधीत भूयः ॥
सार्धांशकलसामथ पट्टिकां च क्षुद्राभिधानां च महाख्यपट्टीम् ।
अध्यर्धकलसां विदधीत सम्यक् कर्तव्यमेवं विधिवत् क्रमेण ॥”

Compare the stanza सासूरे etc., which prescribes the last two types, with the stanzas of the *Mañjarī* quoted below:—

“उत्सेधं विभजेत् त्रिधान्तिममथो भङ्गत्वा चतुर्धा क्रमा-
देकांशे जगतीं परे कुमुदकं भागे विदध्यात् ततः ।

299. See the *Tantrasamuccaya* with *Vimarsinī*, Part I, p. 54 (T. S. S. Ed.).

भागौ द्वावथ पट्टिकान्तरिगतावन्यौ प्रतेः स्यान्मुखं
 कर्तव्यं विधिवत्प्रतिक्रममिदं वृद्धिप्रदं वेश्मनः ॥
 एकेन कुर्यादथ पट्टिकां च सार्धेन खण्डान् विदधीत सम्यक् ।
 शिष्टेन कुर्यादथ वाजनं च कर्तव्यमेवं खलु पादबन्धे ॥”

The treatment of this subject of basement by Indian authorities, when compared with the treatment of the same by Western writers on the subject, it will found that the Indian method of approach furnishes greater room for variations. The following remarks of Rām Rāz are worthy of mention in this connection. He observes: “The Indian pedestals and bases are made more systematically, and afford by far a greater variety of proportions and ornaments, than the Grecian and Roman. In the European architecture, the forms and dimensions of the pedestals and bases are fixed by invariable rules, with respect to the orders in which they are employed; but in the Indian, the choice is left to the option of the artists.”³⁰⁰

STANZA 16.

The Projection of Mouldings:—In this verse the author lays down the rules relating to the projection of various mouldings. The projection of mouldings other than the Pāduka proceeds from the outer extremity of what is known as the ‘Mānasūtra’. The expression ‘Mānasūtra’ is composed of two terms ‘Māna’ and ‘Sūtra’, the former meaning ‘measure’ and the latter ‘thread’. It refers to the three-fold thread employed to mark the fundamental area of the structure. The process of marking the area is described in the stanza:³⁰¹—

पुत्रामैकतरुद्वयान् करमितांस्तत्पादनाहान् दृढाञ्
 शङ्कुन् प्राग्वदनोऽस्त्रमन्त्रमहितान् मध्यादिशर्वान्तिमम् ।
 कृत्वा कल्पितसालसीम्नि परितः शङ्कुद्विसंवेष्टितं
 स्वास्त्रेण प्रविसार्य सूत्रमपि गृह्णातु क्षितिं सर्वतः ॥

The Vivaraṇakāra describes the process in the following words:—

परिधिमानजनितायामविस्तारप्रमाणस्थैर्याय दिक्कोणेषु शङ्कुन् नीत्वा चतुर्दिशं सूत्राणि
 प्रसारणीयानि स्युः । तदिह मानसूत्रं गृह्यते ॥³⁰²

300. *Essay on the Architecture of the Hindus*, page 39-40.

301. *Tantrasamuccaya* (T. S. S. Edition), Part I, Patala I, Stanza 54.

302. *Tantrasamuccayavivaraṇa*, Ms. No. 1994, G.O.M.L., Madras.

According to this interpretation pegs are to be driven into the earth at the corners of the four quarters with a view to the marking of the boundary consisting of the length and breadth laid down with reference to the perimeter. These pegs are all strung together on all the four sides by means of the cord strewn out of three silken threads. This string which is employed to mark the area and which runs round the boundary is what is known as the *Mānasūtra*. The area peg-marked here corresponds to the extent of the *Uttara* length-wise and breadth-wise. The identity of the extent of both the peg-marked area of the ground-floor and the extent of the *Uttara* is clearly indicated by the commentator Śaṅkara when he remarks :

मानसूत्रात् प्रमाणसूत्रादुत्तरबाह्यादिति यावत् ॥³⁰³

The subject of the *Mānasūtra* is elaborately treated by Kāśyapa.

All mouldings except the *Pāduka* project from the *Mānasūtra*. *Pāduka* is distinct from the rest of the mouldings in that it has the greatest projection, and its projection is measured not from the *Mānasūtra*, but from the *Jagatisūtra*. The general proportion of projection is that it is as much as the height of the moulding. The expression 'स्त्रायोच्चमान' yields two alternative measurements for the projection of *Jagatī*, one with reference to the *Āya* formula and the other with reference to the height of the moulding. The term *Āya* here stands for the *Yoni* of the *Uttara*. In the case of a square structure, the same *Yoni* can be secured for the projection by making the projection eight *aṅgulas* in extent, or sixteen *aṅgulas*, or twenty-four *aṅgulas* and so on, the addition being given by eight *aṅgulas*. The projection of the *Kumuda* is equal in extent to the projection of the *Jagatī*. With regard to the remaining mouldings such as *Kumudapattikā*, *Padma*, *Paṭṭikā* and others, the projection may be given to the extent of its height, or three-fourth or half or one-fourth of its height, according as beauty demands. The expression '*gamayet*' is interpreted by the *Vivaranakāra* in the sense of both projection outwards and recession inwards. According to a Kerala commentary on the *Tantrasamuccaya*,³⁰⁴ the moulding *Gala* is conspicuous by the absence of any projection. The general principle is that the projection given to the various mouldings should be such as would contribute to the beauty of the structure.

303. *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.), Part I, page 56

304. Ms. R. No. 4, 128, Govt. Orient. Mss. Library, Madras

The following stanzas are found quoted in the *Vimarśinī* in support of the author's statement :—

“ यावत्स्वयोनिरुर्ध्वस्था भवेत् तावद्धि निष्क्रमः ।
तत्समं निष्क्रमं चैव अर्धं पादोनमेव च ॥
यावज्जगतिस्त्रान्तस्तावत् कुमुदनिर्गमः ।
अम्बुजानां तु सर्वेषामुत्सेधसमनिर्गमः ॥
वेत्राणां चैव सर्वेषां चतुर्भागैकनिर्गमः ।
एवं तीव्रक्रमं शोभावशात् प्रोक्तं स्वयंभुवा ॥
प्रवेशं निर्गमं कुर्यात् सर्वाङ्गानां मसूरके ॥ ”³⁰⁵

With slight modifications in readings, these lines compare with the following lines found stated in the *Mayamata*:—

“ यावज्जगतिनिष्क्रान्तं तावत् कुमुदनिर्गमम् ।
अम्बुजानां तु सर्वेषामुत्सेधसमनिर्गमम् ॥
दलाग्रतीव्रमुत्सेधात् पादं पादार्धमेव वा ।
वेत्राणामपि सर्वेषां चतुर्भागैकनिर्गमम् ॥
तत्समं वा त्रिपादं वा महावाजननिर्गमम् ।
एवं तीव्रक्रमं प्रोक्तं शोभावलवशात् तु वा ॥
प्रवेशनिर्गमं कुर्यात् सर्वाङ्गानां मसूरके ॥ ”³⁰⁶

Compare also the following lines from the *Kāśyapa*:³⁰⁷—

“ सर्वेषामम्बुजानां तु तीव्रं तुङ्गसमं भवेत् ।
कम्पानामपि वा शेषं चतुर्भागैकनिर्गमम् ॥
महावाजननिष्क्रान्तं तुङ्गं तुल्याक्षि एव वा ॥
त्रिपादं वाथ निष्क्रान्तं यथाबलवशान्न्यसेत् ॥ ”³⁰⁸

Functions of Projections:—The treatment of projections and recesses is a matter of absorbing interest to one who views a building as a composition in lights and shadows. The design of mouldings and

305. *Vimarśinī* in the *Tantrasamuccaya* (T. S. S. Edition), Part I, pages 56-67.

306. *Mayamata* (T. S. S. Edition), Ch. XIV, 41-44.

307. *Kāśyapaśūlpa* (Ānandaśrama), Patala VI, 19-20

308. Also compare the *Mānasāra* XIV, lines 376, 377, 384.

the relative proportions of their projections are considered so as to fit in with the elaborate play of light and shadows. The intricacy and depth of mouldings, the sharpness and softness of their edges are qualities which lend nicety to structure. The projections and recessions, in other words, are designed as light—catching and shadow—throwing devices. They invite the eye to revel in the beauty of mouldings, and regulate and lead its path. They are not useless ornaments which can be banished from a building totally; their annihilation is sure to leave the structure blank. The element of mouldings combined with the constructive needs of the building obviates unpleasant appearance in structure. In their constructive capacity, the projections impart a feeling of vitality to architecture and lend it an appearance of strength that pleases the eyes. There is no pleasure in seeing a structure in its skeleton look, in which the division beneath bears the load of the portions above. The projections in their functioning as the repose of the horizontal lines of the basement make the superstructure stand within the limits of the basement, and prevent the effect of excessive solidity of the upper construction. They emphasise those parts of the structure which are horizontal in punctuation. In architectural forms, two elements are generally recognised, the horizontal and the vertical. The one is represented by parts such as the columns and the walls and the other by members such as the basement and the entablature. Over-emphasis on the one to the consequent depreciation of the other leads to exaggeration and distortion of architectural forms. The grace of structure is got when both the elements are well balanced as in the case of an Indian temple. It is the distinctive merit of our architecture that it possesses the architectural attribute of immobility; for an Indian temple in which is kept proportion by the balancing of the horizontal and vertical elements is neither soaring to dizzy heights, nor incontinently sliding sideways.³⁰⁹ The horizontal effect requisite in the composition of the basement is produced successfully by the device of the projections of the mouldings of the basements.

309. These remarks bear reference to the *Sanctum Sanctorum*, the main shrine in which is installed the image of worship.

“ நக்கீரர் சொல் ”*

திரு. அ. சிதம்பரநாதச் செட்டியா அவர்கள், M.A.,
தமிழ் விரிவுரையாளர், அண்ணாமலைநகரம்.

நக்கீரரால் இயற்றப்பட்டவை என்று சொல்லப்படும் பாச்செய்யுட்களாக நாம் அறிபவை புறநானூறு, அகநானூறு, நற்றிணை, குறுந்தொகை ஆகிய தொகைதூல்களில் ஆங்காங்குக் காணப்படும் பாக்களும், திருமுருகாற்றுப்படை, நெடுநல்வாடை எனனும் பெயரொடு பத்துப்பாட்டுத் தொகுதியிற் காணப்படுபவும், திருவெழுகூற்றிருக்கை, பெருந்தேவபாணி, கோபப்பிரசாதம், கண்ணப்பதேவர் திருமறம், கைலைபாதி காளத்திபாதியந்தாதி, ஈங்கோய்மலை யெழுபது, காரெட்டு, போற்றித் திருக்கலிவெண்பா, திருவலஞ்சுழி மும்மணிக்கோவை எனப் பதினேரார் திருமுறையிற் காணப்படுபவும் ஆம். இவற்றிற் காணப்படும் சில சொற்கள் பற்றிய ஆராய்ச்சியே இப்பொழுது கருதப்படுவது. திருவள்ளுவமலைச் செய்யுளொன்றும், நக்கீரரால் இயற்றப்பட்டன எனச் சொல்லப்படும் சில தனிப்பாடல்களும் ஈண்டு ஆராய்ச்சிக்கு எடுத்துக்கொள்ளப்பட்டில.

மேலே மொழியிய எடுத்துக்கொண்டவற்றுள், புறநானூறு, அகநானூறு, நற்றிணை, குறுந்தொகை, திருமுருகாற்றுப்படை, நெடுநல்வாடை ஆகியவை ஒருவகை யிலக்கணப்போக்கும் மற்றவற்றுட் பெருமபான்மைய வேறுவித இலக்கணப்போக்கும் உடையன எனத் தோற்றுகின்றது. பதினேரார் திருமுறையில் அடங்கியிருப்பினும் திருமுருகாற்றுப்படை, அத்திருமுறையிலுள்ள நக்கீரருடைய பிற செய்யுட்களினின்றும் வேறுபடுகின்றது; திருவெழுகூற்றிருக்கை, கோபப்பிரசாதம், காரெட்டு என்பனவும் வேறுபடுகின்றன.

புறநானூறு முதலாய் பனுவல்களினிடையே காணப்படுஞ் சில பொதுவழக்குக்களைக் காண்போம். நீ என்னும் முன்னிலை யொருமைப் பெயர் வேற்றுமை யேற்புழி ‘நின்’ என இவற்றுள் நிற்பதைக் காண்கின்றோம்.

உதாரணம் :—

- | | |
|-----------------------------------|---------------------|
| (1) “ அரியவும் உளவோ நினக்கே ” | (புறம். 56, வரி 16) |
| (2) “ நின்வாய் ” | (அகம். 126, வரி 1) |
| (3) “ நின்வயிற்பிரியலம் ” | (ஐடி. 205, வரி 3) |
| (4) “ நின்மாட்டு.....பேதுற்றனள் ” | (ஐடி. 310, வரி 5) |

* திருப்பதியில நடைபெற்ற (இந்தியா தேசத்து) பத்தாவது கீழைக்கலை மாநாட்டின் கண 22-3-40-இல் நிகழ்த்திய ஆராய்ச்சியுரை.

- (5) “நின்னிழல் கழிப்பி” (ஐடி 340, வரி 2)
 (6) “நினக்கே.....சாந்து...அணிகுவம்”... (ஐடி 340, வரி 18)
 (7) “நீநின்.....பாணனெடு” (ஐடி 346, வரி 12)
 (8) “நின்.....மண்ணல்” (ஐடி 369, வரி 11)
 (9) “நிற்பாராட்டி” (ஐடி 389, வரி 8)
 (10) “நின்.....கதுப்பின்” (நற்றிணை 197, வரி 5)
 (11) “மெல்லிய லரிவை.....நின்” (ஐடி 367, வரி 7)
 (12) “நின்.....பசப்பே” (குறுந்தொகை 143, வரி 6)
 (13) “நின்னளந்தறிதல்” } (திருமுருகாற்றுப்படை
 (14) “நின்னடி உள்ளி வந்தனன்” } வரி 278, 279)
 (15) “நின்வண்புகழ்” (ஐடி வரி 285)

இங்ஙனம் “நின்” என்று வழங்கியதே பழமை என்க. அது பிற்காலத், தில் “உன்” என்று வழங்கலாயிற்று. தொல்காப்பியர் காலத்தே “நும்” என்பதே வழங்கிற்று என்பது,

“நும்மென் இறுதி இயற்கையாகும்” (எழுத்து. 187)

“நும்மின்திரி பெயர் வினாவின் பெயரென்று

அம்முறை யிரண்டும் அவற்றியல் பியலும்” (சொல். 143)

என்னுஞ் சூத்திரங்களால் அறியப்படுவது. “நும்” என்பது வருமொழியின் முதற்கண்வர நிலைமொழியீற்றில் ஒரு னகரம் இருப்பின், அது “னும்” என மாறுதல் கண்கூடு. “னும்” என்பதை “ன்+உம்” எனப் பிரித்தலுங் கூடுமன்றோ? அங்ஙனமே பிற்காலத்தார் மயங்கிப் பிரித்தார்போலும்! புறநானூறு 58-ஆஞ் செய்யுளில் “இன்னுங் கேண்மினும் மிசை வாழியவே” என ஓரடி வந்துளது. அதனை “கேண்மின் நும் இசை” எனவும், “கேண்மின் உம் இசை” எனவும் பிரித்தல் கூடுமன்றோ? நும் இசை யெனப் பிரிக்க வேண்டியவாறு பிரிக்காது, உம் இசை யென்றாற்போலப் பிழைபடப் பிற்காலத்தார் சிலர் பிரித்து ஒதினாக, “உம்” எனபதே தக்க சொல் என நாளடைவில் மயங்கி, அதனையே பலர் ஆளத்தொடங்கியிருத்தல் வேண்டும். ஆகலின் பழஞ் செய்யுட்களிற் காணப்படாத “உம்” என்ற இவ்வழக்கு புறநானூறு முதலான தொகைதூல்களில் உள்ள நக்கீரர் பாடல்களிற் காணப்பட்டிலது. “எம்” என்ற பன்மைத் திரிபெயர்க்கேற்ப “என்” என்ற ஒருமைத் திரிபெயர் உளதாதல் போலவும், “தம்” என்ற திரிபெயர்க்கேற்ப “தன்” என்பது உளதாதல் போலவும், “உம்” என்ற பன்மைத் திரிபெயர்க்கேற்ப “உன்” என்ற ஒருமைத் திரிபெயரும் உளதாதல் வேண்டும் என்னும் பிறழ்ச்சி யுணர்வாற் பிற்காலத்தே “உன்” என்பது பயிலத்தொடங்கி யிருத்தல் வேண்டும். ஆகலின், புறநானூறு முதலிய பாடற்றொகைகளிற் காணப்படாத “உன்” பிற்காலப் பாடல்களிற் காணப்படுவதாயிற்று.

“நீயென் ஒருபெயர் நெடுமுதல் குறுகும்
ஆவயின்னகரம் ஒற்றுகும்மே” (எழுத்து. 179)
என்னுந் தொல்காப்பியச் சூத்திரத்தான், நின் என்பதே பண்டை வழக்கு
என்பது தேறப்படும்.

திருக்கண்ணப்பதேவர் திருமறத்தில் “உன்” என்பது ஆளப்பட்டுளது
என்று பின் வருபவற்றால் அறியலாம்:—

- (1) உற்றது கேட்டருள் உன்றனக்கு அழகா (வரி 79)
- (2) என்றும் உன்றனக்கினிதே (வரி 87)
- (3) அவியே இது வெனக்கு; உனக்கு.....காட்டுவன் (வரி 113)

“உம்” என்பது கைலாபரிகாளத்திபாதிபூந்தாதியில் ஆளப்
பட்டுளது:—

“உம் ஆவிதன்னைக் குடைந்துண்ண எண்ணிய வெங்கூற்றம்”
(3-ஆம் செய்யுள்)

இப்பனுவல்களில் வரும் இவ்வழக்கு நக்கீரர் இயற்றிய புறநானூற்றுப் பாடல்
கள் முதலானவற்றுட் காணப்படுவதொன்றன்று.

இனி, று என்னும் விருதிமுன் அன்சாரியை வந்து வினைமுற்றுக்கள்
முடிவுபெறுவது அகநானூறு முதலாய பழைய தொகைதூல்களில் வரும்
நக்கீரர் பாடல்களில் மிகுக் காணப்படுகிறது. திருமுருகாற்றுப்படை
யொழிந்த பிற பதினொன்றாம் திருமுறைச் செய்யுட்களில் இவ்வழக்கு நக்கீரரால்
ஆளப்பட்டிலது.

உதாரணம்:—

- (1) வண்ணங்கொண்டன்று கொல்லோ (அகம. 57, வரி 13)
- (2) கல்சேர்ந்தன்றே பல்கதிர் ஞாயிறு (ஐடி. 120, வரி 5)
- (3) நுதல் பசந்தன்றே (ஐடி. 227, வரி 1)
- (4) நோதக்கன்றே (குறுந்தொகை 78, வரி 4)
- (5) விரிந்தன்று (திருமுருகாற்றுப்படை, வரி 92)
- (6) கொடுத்தன்று (ஐடி. வரி 94)
- (7) வேட்டன்று (ஐடி. வரி 100)
- (8) கூதிரின்றன்று (நெடுநல்வாடை, வரி 72)

“அர், ஆர், ப எனவருஉ மூன்றும், பல்லோ மருங்கிற் படர்க்கைச்
சொல்லே” (சொல். 206) என்னுந் தொல்காப்பிய விதியால், அர்கள் ஆர்கள்
என்ற வாய்பாட்டிற் பிற்காலத்தில் முடிந்ததுபோல் தொல்காப்பியர் காலத்து
முடிந்ததில்லை என்பது புலனாகும். பழைய இலக்கியங்களில் உயர்திணைப்
பல்லோர் படர்க்கைச் சொற்கள் “அர்” ஈறுபெற்று நின்றனவேயன்றி,
“அர்கள்” என இற்று நின்றில. “அர்”மேல் “கள்” அடுக்கின்ற சொற்
கள் நக்கீரர் பாடிய அகநானூற்றுச் செய்யுள் முதலானவற்றுள் இல்லை

உதாரணம் :—

- (1) வளங்கெழு கோசர் (அகம். 205, வரி 9)
- (2) களங்கொள் மள்ளர் („ 227, „ 11)
- (3) தொடைத்தார் மழவர் („ 249, „ 12)
- (4) வாடாப்பூவிற் கொங்கர் („ 253 „ 4)
- (5) கைவண்ணோழர் („ 369 „ 13)
- (6) இனையருஞ்சூடி வந்தனர் (நற்றிணை 367, வரி 10)
- (7) நோயின்றியன்ற யாக்கையர் மாவின்
அவிரதளிர் புரையுமேனியர் அவிர்தொறும்
பொன்னுரை கடுக்குந் திதலையர் (திருமுருகாற்றுப்படை 143-145)
- (8) இருகோட்டறுவையர் (நெடுநல்வாடை, வரி 35)
- (9) கூந்தல் மகளிர கோதை புனையார் („ ஷை வரி 53)
- (10) யவனர் இயற்றிய.....பாவை („ „ 101)
- (11) ஆடவர் குறுகா அருங்கடி வரைப்பு („ „ 107)

இவற்றின் மாறாக “ அமராகள் தலைவனை ” என்று பெருந்தேவ பாணியிற் காணப்படுகின்றது. பதினொராம் திருமுறையிற் கோக்கப்பட்டுள்ள நக்கிரர் பாடல்கள் வேறு சிலவற்றுள்ளும் இம்மாறுபட்ட வழக்குக் காணப்படுகின்றது.

உதாரணம் :—

- (1) கற்றவர்கள் (கைலைபாதி காளத்திபாதி. செய். 2)
- (2) கொன்றை சூட்டுமின்கள் („ „ „ 36)
- (3) பத்தர்களைக் கண்டால் பணிந்தகலப் போமின்கள்
(கைலைபாதி காளத்திபாதி. செய். 86)
- (4) தேவாசுரர்கள் (போற்றித் திருக்கலிவெண்பா, வரி 12)
- (5) போருகந்த வானவர்கள் („ „ „ 14)
- (6) வானவர்கள் தாம் கூடி („ „ „ 18)
- (7) தானவர்கட் காற்றாது தன்னடைந்த நன்மை விறல்
வானவர்கள் வேண்ட மயிலூருங்கோனவன்
(போற்றித்திருக்கலி வெண்பா, வரி 31)
- (8) நினைந்து நிற்பார்கள்.....அத்தனடி சேர்வார்கள்
(போற்றித்திருக்கலி வெண்பா, வரி 44-45)
- (9) நானுதண் கொம்பரன்னீர்கள்
(திருவலஞ்சுழி மும்மணிக்கோவை, செய். 12)

மேலும், நக்கிரர் பாடிய செய்யுட்களாகப் புறநானூறு, நற்றிணை முதலானவற்றுட் காணப்படுகின்றவற்றில கின்று, கிறு ஆகிய நிகழ்கால இடைநிலைகள் காணப்பட்டிலவாக, பதினொராம் திருமுறையில் அடங்கிய கைலைபாதி காளத்திபாதி யந்தாகியிலும், நான்கோய் மலையெழுபதிலும், திருவலஞ்சுழி மும்மணிக்கோவையிலும் “ கின்று ” நிகழ்காலம் உணர்த்த ஆளப்பட்டுள்ளமை காண்கின்றோம்.

உதாரணம்:—

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|--|-------------------------|
| (1) பொழுது கழிக்கின்றா | (கைலைபாதி. செய். 12) |
| (2) தலைவதடு மாறுகின்றேன் | („ 16) |
| (3) காணாது அலக்கின்றா | („ 18) |
| (4) வெள்ளெலும்பு பூண்கின்றது | („ 51) |
| (5) ஒன்றாகி மீண்டு பலவாகி நிற்கின்றான் | („ 67) |
| (6) செறிகின்ற தீவினைகள் எல்லாம்.....போம் | („ 74) |
| (7) போகின்ற மாமுகிலே | („ 75) |
| (8) அடியேற்கு அருளாது
ஒழிகின்றது என்பாவமேயன்றோ | („ 76) |
| (9) தீங்கையடுகின்ற காளத்தி
யாள்வாய் நான் நல்ல
பணிகின்ற வண்ணம்பணி
பையப்போ என்கின்ற | („ 96) |
| (10) பாவனைசெய் ரங்கோயே | (ரங்கோய்மலை. செய். 12) |
| (11) ஆளகின்ற அண்ணல் | (திருவலஞ்சுழி. செய். 3) |
| (12) கானவர் வாழ்கின்ற சேனெறி | („ 12) |

திருவெழுக்கூற்றிருக்கையில் வாசகம், கீதம், பாதம், பரமேட்டி, வேதியன் என்ற வடமொழிச்சொற்கள் வந்துள்ளமையாலும், கோபப் பிரசாதத்திலுந் நிதி, குபேரன், ரசன், கோபப்பிரசாதம், பரமன், மூர்த்தி, கரதலம், சிவலோகன், தேவதேவன், பாவநாசன், சோதி, சித்திரம், ஞானம், மூர்க்கம், ஆகியவை வந்துள்ளமையாலும், அவ் விரு பிரபந்தங்களும் பிற்காலத்தவையென்று வாதிக்கக் கூடுமாயினும், மேலே கண்ட நாலவகையானும் அவை பிற்காலத் தவையென்று நிறுவ இடமில்லை. கண்ணப்பதேவர் திருமறத்தில் தவம், தீவகம், புண்ணியபாதம், அர்ச்சனை, முத்திரை, மந்திரம், பிரான், குணம், மாதவன், லிங்கம், கதி என்ற சொற்களும், பெருந்தேவபாணியிற் சூலபாணி, நீலகண்டன், பரமயோகி, தேவதேவன், வேதகீதன், பாவநாசன், பரமேச்ச வரன், ஆதிமூர்த்தி, சாதி, சோதி, வேதவிசை, புண்ணியமூர்த்தி, பிராணி, நிமலன், ரசன், தருமன், பிரமன், சுந்தரவிடங்கன், நீதி, வரதன், தீர்த்தம், பத்தி, முத்தி, தேவாதிதேவன், திகழு என்ற சொற்களும் வடமொழியினின்று வந்து வழங்கியுள். போற்றித்திருக் கலிவெண்பாவினும் புண்டரீகம், பாதம், அண்டரண்டம், பூசித்த, வரம், கோபம், மந்திரித்த மந்திரம், தேவாசுரர்கள், சிரம், இலிங்கம், சக்கரம், வேதம், சேனாபதி, அந்தகன், பவம், பாவனை தக்கணம், மகுடம், போனகம் ஆகிய வடமொழிச் சொற்கள் வந்துள். இம் மூன்று பிரபந்தங்களையும் மேலே கண்ட நாலவகையான நோக்குழி, இவை பிற்காலத்தை என்று தோற்றுதலால், வடமொழிச் சொற்களை நிரம்பப் பெற்றுள்ளமை அக்கருத்தை வலியுறுத்தும் என்க. ஆனால், நக்கீரர் பாடிய புறநானூற்றுப் பாடல் ஒன்றில் (189) யாமம் என்பதும், மறறென்றில் (56)

சடையென்பதும், திருமுருகாற்றுப்படையில் தெய்வம், திலகம், ரியமம், மந்திரவிதி, கலிங்கம், அங்குசம், வதுவை, மதம், பவி, நகர், யுகம் என்பனவும், நெடுநல்வாடையில் அமயம் (75) தெய்வம் (77) நகர் (90) தசநான்கு (115) கலிங்கம் (134) உரோகிணி (163) யாமம் (186) என்பனவும் வந்துள்ளமையால், வடமொழிச்சொல் வழக்குண்மை ஒன்றுகொண்டே ஒரு நூலின் காலத்தைத் துணிதல் தக்கதன்றெனத் தோற்றுகின்றது.

எனவே, வடமொழிச் சொற்களைப் பெற்றுள்ளமையால் திருமுருகாற்றுப்படை யொழிந்த பதினோராந் திருமுறைச் செய்யுட்கள் நக்கீரர் பாடியன பிற்காலத்தன என மொழிகின்றமில்லை. அவைதம்முள், “காரெட்டு” என்ற தலைப்பின்கீழ்க் காணப்படும் வெண்பா எட்டனுள் பாசுபதன், அரவிந்தம், கண்டம், அண்டம், ஆதி என்ற வடமொழிச் சொற்கள் காணப்படுகின்றதொன்று நோக்கியே அது பிற்காலத்ததென்றல் ஆகாது. காரெட்டு, திருவெழுகூற்றிருக்கை, கோப்பிரசாதம், என்றவற்றுள் “உன்” “அர்கள்” “கின்று” ஆகியவற்றுள் ஒன்றுதானும் ஓரிடத்தும் ஆளப்படாமையால் அவற்றை எழுதிய நக்கீரர் இன்னா எனத் துணிந்து கூற ஒண்ணாது. அம் மூன்று பாச் செய்யுட்களும் திருமுருகாற்றுப்படையும் ஒழிந்த ஏனைய பெருந்தேவபாணி, திருக்கண்ணப்பதேவர் திருமறம், கைலை பாதி காளத்திபாதி யந்தாதி, திருநாங்கோய்மலை யெழுபது, போற்றித் திருக்கலிவெண்பா, திருவலஞ்சுழி மும்மணிக்கோவை என்னும் ஆறும் இயற்றிய நக்கீரர் புறநானூறு, அகநானூறு, நற்றிணை, குறுந்தொகை என்னுந் தொகைகளிற் காணப்படுஞ் சில பாக்களையும், திருமுருகாற்றுப்படை, நெடுநல்வாடை என்னும் இவ்விரண்டையும் இயற்றிய நக்கீரரினும் வேறு பட்டவர் என அறியப்படும். திருவிளையாடற்புராணம் முதலாய் சில புராணங்களிற் காணப்படுங் கதைகள் பொருத்தமற்றுப்போகும் என்ற ஒரு செய்தியே கருதிச் சங்கப்புலவராய் நக்கீரனாரே பதினோராந் திருமுறை யிலுள்ள ஐயமுறத்தக்க இப்பாக்களையும் இயற்றினார் எனக் கோடல் எத்துணைப் பொருத்த முடைதது என இனிச் சிந்திக்கவேண்டும்.

நக்கீரர் ஒருவரேயாக, இருவரேயாக; அச்செய்தி ஐயமற இன்னும் நிறுவப்பெறவில்லை யெனினும், மேலே காட்டப்பட்டவாற்றால் இருவரை நக்கீரர் சொன்னடை பாச்செய்யுட்கண் உள்ளது என்பது மறுக்க ஒண்ணு உண்மை என்று அறியப்படும்.

BHĀVANĀVIVEKA

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१अत्रोच्यते—

अनेकार्थत्वमन्याय्यं तेनैकाधिकरण्यतः ।

करोतिना तिङन्तेषु २भावभेदोऽनुमीयते ॥ २७ ॥

३इदानीं सिद्धान्तवादी धात्वर्थातिरिक्तां भावनां सत्तया शब्दार्थतया च समर्थयितु-
मुपक्रमते । अत्रोच्यते—

अनेकार्थत्वमन्याय्यं तेनैकाधिकरण्यतः ।

करोतिना तिङन्तेषु भावभेदोऽनुमीयते ॥ (इति) ॥

अयमर्थः—पचत्यादिपदेषु भावनाभेदोऽभिधेयोऽनुमीयते । कुतो हेतोः ? एकाधि-
करण्यतः—करोतिना तिङन्तानां पचत्यादीनां ‘किं करोति—पचति’ इत्येवंरूपात् ।
ननु धात्वर्थसामान्यवचनत्वात्करोतेः तत्सामानाधिकरण्यात्पचत्यादीनां न भावना-
विशेषार्थत्वमनुमातुं शक्यते इत्याशङ्कानिराकरणाद्योक्तं—अनेकार्थत्वमन्याय्यम्—इति ।
एकस्य शब्दस्यानेकार्थत्वं न न्याय्यम् । अस्य च करोतेः क्वचित् प्रयोगे ४भावनार्थत्वं
निश्चितम् । अतः सामानाधिकरण्येऽपि प्रयोगे तादर्थ्यमेव ग्राह्यम्, अन्यथा अनेकार्थत्व-
स्यान्याय्यस्य प्रसङ्गादिति श्लोकस्यार्थः ।

ननु अनिश्चितस्वरूपाया भावनायाः कथं शब्दार्थत्वं साध्यते ? नह्यप्रसिद्धे धर्मिणि
धर्मश्चिन्तामर्हति । अथोच्येत स्वरूपसद्भाव एवेह साध्यत इति, तदसत् ; स्वरूपसद्भाव-
हेतोरिहानुपन्यासात्, उपन्यस्तस्य चाहेतुत्वात् । नहि करोतिसामानाधिकरण्यं भावनास्व-
रूपेण व्याप्तं दृष्टम्, येन तत्साधकं स्यात् । अथ मतं ५घटं करोतीत्येवमादौ प्रयोगे धात्वर्थ-

१. ‘अत्र’ नास्ति—क.

४. भावनात्वं—च.

२. भावभेदो—ग, घ.

५. घटः—च.

३. ‘सिद्धान्त आरम्भ्यते’ इत्यधिकं वर्तते—च.

सामान्यव्यतिरिक्तेन केनचिदर्थेन भवितव्यम्, स भावनेत्यनेन प्रकारेण भावनास्वरूपमपि प्रसाध्य ततः करोतिसामानाधिकरण्यात् तिङन्तानामपि भावनार्थत्वं साध्यत इति । एतदप्य-
सारम्, यतः प्रमाणान्तरेणावगतेऽर्थे शब्दः प्रयुज्यते, न शब्दप्रयोगादेव तत्स्वरूपसिद्धिः ।
अतः प्रमाणान्तरमन्तरेण करोतिशब्दव्यवहारमात्रेण तदर्थतया भावना न सिध्यति । व्यव-
हारमूलत्वेन तद्वोचरे प्रमाणान्तरं कल्प्यते इति चेत्—मैवम् । तत्प्रमाणान्तरं कल्प्यमानं
विशेषतो निरूप्यते वा ? न वा ? न चेत्, असदेव स्यात् । निरूप्यते चेत्, तदेव वाच्यम् । न
चोच्यते । तस्मात् किमत्र क्रियते इति न ज्ञायते । अत्रोच्यते । भावनास्वरूपसद्भावं वक्ष्य-
माणेन न्यायेनाङ्गीकृत्य करोतेर्धात्वर्थसामान्यार्थतानिरासेन भावनार्थत्वमुपपाद्य पुनस्तत्सा-
मानाधिकरण्यात्पचत्यादीनामपि भावनाविशेषवचनत्वं साध्यत इति ।

नन्वेवन्तर्हि स्वरूपसद्भावप्रतिपादनमेव प्रथममस्तु, पश्चाच्छब्दार्थताप्रतिपादनम् ।
न । प्राधान्यात् । आख्यातप्रत्ययाभिधेयता हि भावनायाः प्राधान्येनास्मिन्प्रकरणे विवक्षिता,
तच्छेषतया तु स्वरूपसद्भावः । नहि सा सत्तामात्रेण फलवती, किन्त्वाख्यातप्रत्ययेनाभिहिता
स्वर्गादिसाध्यत्वसिद्धिहेतुतया । स चायमभिप्रायः स्वयमेवाचार्येण विवरिष्यते—‘ तदेवं
भावनार्थत्वादाख्यातप्रत्ययस्य ’ इत्यादौ । तस्माद्भावनायाः शब्दार्थत्वमस्मिन् प्रकरणे
प्रतिपाद्यते, पश्चात्स्वरूपसद्भाव इति सर्वमुपपन्नम् ॥

ननुपरिष्ठादपि भावनायाः प्रत्ययार्थत्वेऽपि हेतुर्वक्ष्यते न केवले सद्भावे । सत्यम्,
उभयोरपि सद्भावशब्दार्थत्वयोर्वक्तव्ययोः प्रथमं शब्दार्थतानिरूपणेन सिद्धान्तोपक्रमस्याय-
मभिप्रायो वर्णित इत्यदोषः ।

इदानीं श्लोकस्यार्थमाविष्कर्तुंकाम आह—‘घटं करोतीत्यत्र तावज्जनोत्पादनादि-

१. सिद्धयतीति—च.

२. ‘कल्प्यते’ इत्यारभ्य ‘तत्प्रमाणान्तरम्’

इत्यन्तो गन्थो नास्ति ‘च’ मातृकायाम् ।

३. ‘किं’ अधिकं वर्तते—च मातृकायाम्.

४. नोत्पादश्रुति—च.

घटं करोतीत्यत्र १ तावज्जननोत्पादनादिश्रुतिविषयां भावनां करोतिराचष्टे । स च पचत्यादिसमानाधिकरणोऽपि नान्यत्र वर्तितुमर्हति । अनेकार्थत्वे २ ऽप्यनैकान्तिकत्वात् ततोऽभिधेय ३ निश्चया-

श्रुतिविषयां भावनां करोतिराचष्टे इति । अयमर्थः—घटं करोतीत्येवंजातीयके प्रयोगे तावत्करोतेर्भावनार्थ ४ त्वमवश्याभ्युपगन्तव्यम् । आस्तामन्यत्र । तत्र हेत्वपेक्षायामुक्तम्—जननोत्पादनादिश्रुतिविषयामिति । हेतुगर्भं विशेषणम् । जननोत्पादनादयः शब्दाः भवितुः प्रयोजकव्यापारवचनतया भावनावचनाः समधिगताः भावनाशब्दवत् । तैश्च समानार्थः करोतिः प्रयुज्यमानो दृश्यते, घटं करोति घटमुत्पादयतीत्येकार्थताप्रतीतेः । यदि पुनः घटं करोतीत्यत्रापि करोतिर्भावनां विहाय धात्वर्थमा(त्रमा)चक्षीत तदा तदर्थस्य घटेन साध्य-तयोपात्तेनान्वयो न घटेत, धात्वर्थसामान्यस्य साध्यानपेक्षत्वात्, विशेषापेक्षत्वात्, घटस्य च तद्विशेषत्वाभावात् साध्यतया भेदनिर्देशाच्च तद्विषय(शेष)तयाप्यन्वयायोगात् । यदा पुनर्भावना तत्र करोतेरर्थः स्यात् तदा तस्या भाव्यापेक्षणीत्वस्वाभाव्येन घटेन सम्बन्धो घटना-मुपैति ‘घटं करोति’ इति । अतो यद्यपि पचत्यादिसमानाधिकरणप्रयोगे करोतेर्धात्वर्थ-सामान्यार्थत्वेऽपि न कश्चिद्विरोधः, ‘घटं करोति’ इत्यादौ त्ववश्यं भावनार्थत्वमभ्युपगन्तव्य-मिति । अस्तु तर्हि तत्र करोतिर्भावनावचनः, पचत्यादिसमानाधिकरणस्तु धात्वर्थसामान्य-वचनः स्यात् इत्याशङ्क्याह—स च पचत्यादिसमानाधिकरणोऽपि नान्यत्र वर्तितुमर्हतीति । स च करोतिर्भावनायां दृष्टप्रयोगः पचत्यादिसमानाधिकरणतया प्रयुज्यमानोऽपि नान्यत्र भावनाया वर्तितुमर्हति किन्तु भावनायामेवेति । तत्र हेतुमाह—अनेकार्थत्वे ५ ऽप्यनैकान्तिकत्वात्ततोऽभिधेयनिश्चयायोगादप्यव्यवहारापत्तेरिति । यदि च पचत्यादिसमानाधिकरणः

१. तावद्धटोत्पादनादि—क, ख.

२. त्वेऽनैका—क; त्वे त्वनैका—ग; त्वे
क्षनैका—ङ.

३. निश्चयायोगादव्यव—क, ख, ग; निश्चया-
योगात्तदव्यव—घ.

४. त्वमवश्यमवश्या—च.

५. ‘त्वेषीति ।’ अनेकान्तिकत्वात्ततो—च.

योगादप्यव्यवहारापत्तेः । १परिगतसामर्थ्यानुसारेण च प्रयोगोप-
पत्तौ सामर्थ्यान्तरपरिकल्पनायोगात्, प्रतीतबाधादप्रतीतकल्प-

करोतिर्न भावनायाम्, अनेकार्थत्वं हि तदा अस्य स्यात् । एकार्थं प्रति नियमाभावात्
२ततः शब्दात् ३अर्थविशेषनिश्चयानुपपत्तेः शब्दनिबन्धनो व्यवहारो न स्यात् ।

नन्वक्षादिशब्दानामनेकार्थानामपि सतां प्रकरणादिवशदर्थविशेषनिश्चयहेतुत्वेन व्यव-
हाराङ्गत्वं दृश्यते । तत्र किमिदमुच्यते अनेकार्थत्वमन्योग्यमिति (ति इ)त्याशङ्क्याह—
परिगतसामर्थ्यानुसारेण च प्रयोगोपपत्तौ सामर्थ्यान्तरपरिकल्पनायोगादिति । यस्याक्षादेः
शब्दस्यैक्यैव शक्त्या प्रयोगोपपत्तिर्नास्ति तस्य शक्तिभेदकल्पनया ४ अनेकार्थत्वमपीध्यत एव ।
यस्य पुनश्शब्दस्य क्वचित्परिगतेनैव सामर्थ्येनान्यत्रापि प्रयोगोपपत्तिः तस्य न सामर्थ्यान्तरं
कल्पयितुं शक्यते, प्रमाणाभावात् । कार्यानुपपत्तिः सामर्थ्यकल्पनाया बीजम् । सा चान्यथा-
प्युपपत्तौ ५ सत्यां नास्तीति । न केवलं प्रमाणाभावादेव सामर्थ्यान्तरपरिकल्पनायोगः, किन्तु
प्रमाणविरोधादपीत्याह—प्रतीतबाधादप्रतीतकल्पनाच्चेति । सामर्थ्यान्तरपरिकल्पने हि पूर्व-
प्रतीतं सामर्थ्यं बाध्येत, अप्रतीतं चान्यत्कल्प्येत । अर्थविशेषनियतं सामर्थ्यं शब्दस्य पूर्वं
प्रतीतं अस्य शब्दस्यायमेवार्थ इति । तस्य चैवं सति बाधः ६क्रियानपि भवेदेव ।

ननु कथं प्रतीतबाधः ? यावता प्रयोगान्तरे प्रतीतमेकं सामर्थ्यं (अपरित्यज्यैव) प्रयो-
गान्तरे चार्थान्तरे सामर्थ्यान्तरं कल्प्यते । अतो यत्र सामर्थ्यान्तरं कल्प्यते न तत्र प्राचीन-

१. अवगतसामर्थ्या—ग, घ ; परिगृहीत-
सामर्थ्या—ङ.

२. 'क्वचिद्भावार्थत्वं क्वचिदन्यार्थत्वमित्यने-
कार्थत्वे च सति अनैकान्तिकत्वात् एकार्थं
प्रति नियमाभावात्' इति अधिकं वर्तते—छ.

मातृक्रियायाम् ।

३. अर्थविशेषानुपपत्तेः—छ.

४. कल्पनाया—च.

५. अन्यथानुपपत्तौ—च.

६. क्रिया न विभवेदेव—च.

नाच्च^१, प्रयोगान्तरेऽपि प्रयोगान्तरनिर्ज्ञातस्यैव प्रत्ययात् । किं करो-
तीति^२ चोत्पादनाया एवाधिगमात् । एवं भावनाभिधानेन करोतिना
समानाधिकरणतया आख्यातपदानां तद्विशेषाभिधायित्वमनु-
मीयते ।

प्रयोगावगतसामर्थ्यप्रतीतिरिति न प्रतीति(त)बाध इत्याशङ्क्याह—प्रयोगान्तरेऽपि प्रयोगा-
न्तरनिर्ज्ञातस्यैव प्रत्ययादिति । कचित्प्रयोगे योऽर्थो निर्ज्ञातो यस्य गवादेशशब्दस्य, तस्य स
एव प्रयोगान्तरेऽपि सास्त्रादिमदादिरूपः प्रतीयते । अतः प्रयोगभेदेऽपि प्रयुज्यमानस्य शब्द-
स्यार्थप्रत्यभिज्ञानात् सामर्थ्यान्तरपरिकल्पने प्रतीति(त)बाधः स्यादेव । अतः यत्रैकेन
सामर्थ्येनोपपत्तिर्नास्त्यक्षादिशब्दे तत्र गत्यन्तराभावात् सामर्थ्यभेदेनानेकार्थत्वमपि गृह्यताम् ।
यत्र त्वनुपपत्तिर्नास्ति, प्रत्यभिज्ञायते च प्रयोगान्तरे प्रयोगान्तरावगतोऽर्थो गवादिशब्दे
सास्त्रादिमदाकृतिमत्स्वनेकेषु विशेषेषु बहुशः प्रयुज्यमानेऽपि, न तत्र सामर्थ्यान्तरपरि-
कल्पनावकाश इति ।

अस्तु तर्हि प्रयोगभेदेऽपि प्रत्यभिज्ञायमानार्थानामेकार्थत्वम्, करोतिस्तु न तथेत्या-
शङ्क्याह—किं करोतीति चोत्पादनाया एवाधिगमादिति । घटं करोतीत्यत्र करोतेर्योऽर्थो-
ऽधिगतः उत्पादनालक्षणः स एव 'किं करोति—पचति' इति पचत्यादिसमानाधिकरणस्यापि
प्रतीयते, नान्य इति भावनार्थ एव करोतिः । ततश्च तत्सामानाधिकरण्यात्पचत्यादीनामपि
भावनाविशेषार्थत्वमनुमीयत इति ।

यदुक्तं पूर्वपक्षे प्रत्ययस्य भावनाविशेषाभिधायित्वानुमानपक्षे दूषणम् 'एकत्वाल्लकारात्मनः
प्रत्ययस्यानेकेषु विशेषेषु वृत्तिर्नोपपद्यते' इति, तदनुद्य परिहरति—यद्यपि प्रत्ययोऽभेदान्न^४

१. 'च' नास्ति—घ.

३. करोति च—च.

२. 'इति' नास्ति—ख.

४. नापि—च.

यद्यपि प्रत्ययोऽभेदान्न ^१विशेषावगमायालम्, पदन्तु ^२प्रकृति-
भेदभिन्नं प्रकृत्यर्थानुरक्तप्रत्ययार्थप्रधानम् । प्रत्ययोऽपि पौर्वापर्य-
नियमात् ^३पदवन्न स्वतन्त्रः सामान्यमात्रे ^४धियमादधाति, अपि तु

विशेषावगमायालम्, पदन्तु प्रकृतिभेदभिन्नं प्रकृत्यर्थानुरक्त^५प्रत्ययार्थप्रधानमिति । यद्यपि
प्रत्यय एकत्वान्न भावनाविशेषावगमाय समर्थः, पदन्तु प्रकृतिप्रत्ययात्मकं समर्थम्, यतस्त-
त्प्रकृतिभेदाद्भिन्नम् । भिद्यन्ते हि प्रकृत्यंशाः पचत्यादौ प्रत्ययाभेदेऽपि । अतः प्रकृत्यंश-
भेदात्प्रकृतिप्रत्ययसमुदायरूपं पदं भिद्यते । ततश्च वाचकनानात्वाद्वाच्यनानात्वमविरुद्धम् ।

ननु प्रकृतिप्रत्ययव्यतिरेकेण किमन्यत्पदं नाम ? यस्य प्रकृत्यंशभेदाद्भेदोवि(ऽभि)
धीयते । तत्समुदाय इति चेत्—न ; ^६तस्यावाचकत्वात्, प्रकृतिप्रत्ययांशयोः पृथगेव
पदार्थवत्ता सत्यपि सहप्रयोगनियमे । किञ्च केवलस्य प्रत्ययस्यार्थो भावनेति भावनावदि-
नोऽभ्युपगमः । तेन चेदं विरुध्यते प्रकृतिप्रत्ययसमुदायरूपस्य पदस्य भावनाविशेषार्थत्वाभि-
धानम् । अत्रोच्यते—वैयाकरणोऽत्र पूर्वपक्षवादी । तस्य मतमङ्गीकृत्येदमुच्यते । तस्य मतं
हीदम्—न प्रकृतिप्रत्यययोः पदार्थभेदः परमार्थतोऽस्ति, अपोद्धारकल्पितेन भेदेनायं भेदव्य-
वहारः—अयं^७ प्रकृत्यर्थः, अयं प्रत्ययार्थ इति । अतः प्रकृतिभेदाद्भिद्यमानं पदं प्रकृत्यर्थ-
विशेषितप्रत्ययार्थप्रधानत्वाद्भावनाविशेषे वर्तत इति ।

एवं वैयाकरणमतानुसारेण परिहारमुक्त्वा इदानीं स्वमतानुसारेण परिहारमाह—प्रत्ययो-
ऽपि पौर्वापर्यनियमात्पदवन्न स्वतन्त्रः सामान्यमात्रे धियमादधाति, (अपि तु) प्रकृत्यपेक्षया

१. विशेषायालं—क. ख, ड.

२. प्रकृतिभेदाद्भिन्नप्रकृत्यर्था—ग, घ, ड.

३. नियमान्न—क, ख, ग, घ, ड.

४. धियमाविर्भावयति—क, ख.

५. प्रत्ययार्थः—छ.

६. तस्य वाच—च.

७. ह्यर्थवार्ता—च.

८. प्रकृत्यर्थभेदः अयं—च.

१ प्रकृत्यपेक्षया आचक्षाणः स्वार्थमेव समर्पयति । सर्वथा २ तावत्पदं

आचक्षाणः स्वार्थमेव समर्पयतीति । यद्यपि प्रत्ययस्यैकत्वादेकस्मिन्नेव भावनासामान्ये शक्तिर्गृह्यते, न तद्विशेषेषु अनेकेषु, तथापि नासौ सामान्यमात्रे बुद्धिमुत्पादयति, किन्तु प्रकृत्यर्थानुरागलब्धे विशेषे । कुतः ? पौर्वापर्यनियमात् । नियतं हि पौर्वापर्यं प्रकृति-प्रत्यययोः, पूर्वैव प्रकृतिः प्रयुज्यते, पर एव प्रत्यय इति । स चायं पौर्वापर्यनियमः अन्यथा नोप-पद्यते, यदि प्रत्ययः स्वतन्त्रः सामान्यमात्रे धियमादधीत पदवत् ; यथाहि पदं ३ गवादिक् 'गामानय' 'आनय गाम्' इत्येवं अनियतपौर्वापर्यं प्रयुज्यमानं गोत्वादिसामान्यमात्रे बुद्धिमुत्पादयति, पश्चाच्चाकांक्षासन्निधियोग्यतानुगृहीतपदार्थद्वारकवाक्यार्थावगतिपर्यन्ततां प्रतिपद्यते, न तथा प्रत्ययस्सामान्यमात्रे धियं जनयति ; पौर्वापर्यनियमात् ; अपि तु नियमेन प्रकृतिं पूर्वोच्चरितामपेक्ष्य स्वार्थं भावनासामान्यमाचक्षाणः प्रकृत्यर्थोपरागलब्ध-विशेषनिष्ठतया बुद्धौ निवेशयति ॥

नन्विदं विरुद्धमिव प्रतीयते, प्रत्ययस्य भावनासामान्ये शक्तिर्गृह्यते, बुद्ध्युत्पादक-त्वन्तु विशेषे (इति) । यत्र हि शक्तिर्गृह्यते तत्रैव बुद्धिजनकत्वमिति । अत्रोच्यते—न तावद्विशेषेषु शक्तिर्ग्रहीतुं शक्यते, तेषामानन्त्यात् व्यभिचाराच्च । अन्वयव्यतिरेकाभ्यां तु ४ सामान्यमात्राभिधानसामर्थ्यं ५ निष्कृष्यावगन्तुं शक्यते । तस्मात्सामान्यमेवाभिधेयम् । कथं तर्हि नियमेन विशेषे बुद्ध्युत्पत्तिः ? पौर्वापर्यनियमादित्युक्तम्—शक्तिप्रतियोगिकेवल-सामान्यप्रतिपत्तिहेतुषु ६ गवादिपदेष्वपरिदृश्यमाना(त्) प्रकृतिप्रत्यययोः ७ दृश्यमानात् पौर्वा-पर्यनियमात् प्रत्ययार्थस्य प्रकृत्यर्थान्वयमन्तरेण प्रतिपादनायोग्यता गम्यत इति । तस्मादविरोधः ।

१. प्रकृत्यर्थपेक्षया आचक्षाणः स्वार्थविशेषमेव प्रत्याययति—क, ख ; प्रकृत्यर्थपेक्षया विलक्षणः स्वार्थविशेषमेव समर्पयति—ग, ङ. प्रकृत्यर्थपेक्षया आचक्षाणः स्वार्थविशेष-मेव समर्पयति—घ.

२. पदं तावत्—क, ग.

३. गवादिक्—च.

४. व्यतिरेकात्—छ.

५. अभिधानमात्र—छ.

६. गवादिषु—छ.

७. दृश्यमानत्वात्—च.

**विशेषे वर्तते । ^१तेन तावत्स्वतो भेदवत्या ^२अपि ^३धात्वर्थोपधान-
व्यज्यमानस्फुटविशेषायास्तत्र ^४विशेषाभिधानमविरुद्धम् ।**

सर्वथा तावत्पदं विशेषे वर्तते इति । अस्मायमर्थः—यदि वैयाकरणप्रक्रिया, यदि वा मीमां-
सकप्रक्रिया, सर्वथा तावत्पदं भावनाया विशेषे वर्तते इति । स्वतो भेदवत्या अपि, धात्वर्थोप-
धानव्यज्यमानस्फुटविशेषाया इति द्वे विशेषणे भावनायाः । स्वतो भेदवत्या अपीत्यनेनेय-
माशङ्का ^५व्यावर्त्यते—यदि स्वतो भेदो भावनायाः स्यात्, धात्वर्थोपधानानपेक्षया सा स्वत एव
व्यावृत्ताकारां शब्देन प्रतिपाद्यते (द्येत) । अथ धात्वर्थोपधानोपरागमन्तरेण न प्रतिपाद(नार्हा)
विशेषतः, तर्हि न स्वतो भेदवतीति । एषा शङ्का अपनीयते—स्वतो भेदवत्येव भावना, न
पुनराकाशवत्स्वत एकरूपा सती परोपाधिकृतभेदाद्भेदेन विभाव्यत इति, तथात्वे प्रमाणाभावा-
क्रिया(त्व)व्याघातप्रसङ्गाच्च । सा खलु भावना क्रिया । क्रिया च कारकसाध्यस्वभावा ।
सा च सर्वत्रैकरूपा अभ्युपगम्यमाना नित्या अभ्युपगता स्यात् । ततश्च क्रियारूपतां
जह्यात् । अथ मतं स्वतो नित्याया अपि भावनाया उपधानोपरागनिबन्धनं साध्यत्वम्,
यथा आकाशस्य घटाद्युपाधिनिबन्धनं जन्मनाशादि, तद्वदिति । एवन्तर्हि स्वतः साध्य-
स्वभावेनोपाधिना अन्येन भवितव्यम्, यदुपरागाद्भावेना साध्या अवगम्येत । नच
सोऽस्ति । अस्ति चेत्तस्यैव क्रियात्वं भावनात्वं च स्यात् । तस्मात्स्वत एव भेदवती भावनेति ।
एवन्तर्हि ^६विशेषाकारेणोपाध्यनपेक्षया शब्दैः प्रतिपाद्येतेत्याशङ्कापाकरणार्थं ^७धात्वर्थोप-
धानव्यज्यमानस्फुटविशेषाया इति विशेषणम् । धात्वर्थ एवोपधानं धात्वर्थोपधानम्,
उपधानमुपाधिः, तेन धात्वर्थोपधानेन व्यज्यमानः स्फुटो भवति यस्य विशेषः—सेयं धात्वर्थोप-
धानव्यज्यमानस्फुटविशेषा भावना, तस्या विशेषे पदं वर्तते इति सम्बन्धः । कथन्तर्हि स्वतो

१. 'तेन तावत्'—नास्ति-क, ख ;

५. व्यावर्त्यते—छ.

२. 'अपि' नास्ति—ग, घ. तेन त्वतो-
भेदवत्या अपि—छ.

६. 'तर्हि' इत्यतः परं 'स्वत एव' अधिकं
वर्तते—छ.

३. धात्वर्थोपमान—ख.

७. वारणार्थ—छ.

४. विशेषाभिधानाद्यमान—ग, घ. छ.

८. यस्य—च.

ननु प्रत्ययस्य सामान्यमभिधेयमिष्टम्, ^१तत्कथमुभयोस्सामान्याभिधायिनोरैकाधिकरण्यम्^२ ?

विद्यमानो भेदोऽभिव्यक्तावुपधानमपेक्षते ? का अत्रानुपपत्तिः। दृश्यन्ते हि स्वतो भिन्ना अपि क्षीरादिरसाः क्षीरादिभिराश्रयविशेषैर्भेदेन व्यपदिश्यमानाः, क्षीररसो गुडरस इत्यादि ।

ननु तत्र यद्यपि भेदव्यपदेश उपाधिपरामर्शोपेक्षः, तथापि स्वत एव भेदोऽवगम्यते प्रत्यक्षेण क्षीरादिरसानाम् । सत्यम्; तत्तु भावनायामपि समानम् । कथम् ? सापि हि भावना प्रत्यक्षेणावगम्यत इति वक्ष्यते । ^३तथा च परिस्पन्दादिलक्षणायां भावनायां प्रवर्तमानं प्रत्यक्षं तत्साध्यानागतसंयोगविभागादिधात्वर्थोपाधिपरामर्शविकलमेव भावनाविशेषाकारग्राहीति ग्राह्यम्^४, अवर्तमानस्य प्रत्यक्षविषयानुप्रवेशानुपपत्तेः । तस्मात्स्वत एव भेदवती भावना धात्वर्थोपाधिव्यज्यमानविशेषाकारां शब्देन प्रतिपाद्यत इत्यलमतिप्रपञ्चेन ॥

तत्र विशेषाभिधानमविरुद्धमित्यस्यायमर्थः—यस्मात्पदं विशेषे वर्तते ततः किं करोतीति प्रश्नप्रतिवचने पचतीत्यत्र भावनाविशेषाभिधानं न विरुध्यत इति । तत्र चोदयति—ननु प्रत्ययस्य सामान्यमभिधेयमिष्टम्, तत्कथमुभयोः सामान्याभिधायिनोरैकाधिकरण्यमिति ।
 अयमर्थः—आख्यातप्रत्ययस्य सामान्यमभिधेयमिष्टं करोतेरिव, तत्र कथमुभयोः करोतिप्रत्ययोस्सामान्यवाचिनोस्सामानाधिकरण्यमिति । ननु पूर्वग्रन्थे सामान्यवाचिनोऽपि प्रत्ययस्य प्रकृत्यपेक्षया विशेषवृत्तिः निरूपिता । तत्र कथमस्य चोदस्यावकाशः ? उच्यते—यद्यपि प्रकृतिसमभिव्यहारात्प्रत्ययस्य ^५विशेषे वृत्तिर्निरूपिता, तथापि सामान्यमेवाभिधेयमिष्टम्, न विशेषः । अभिधेयद्वारकञ्च सामानाधिकरण्यं सति सम्भवे ग्रहीतुं युक्तम् । तच्च न सम्भवति । करोतेराख्यातप्रत्ययस्य च भावनासामान्यमोत्राभिधायित्वाभ्युपगमात् । अन्यूनानति-

१. 'तत्' नास्ति—ख.

४. गृहीतिग्राह्यम्—च.

२. 'सामानाधिकरण्यम्'—ख.

५. विशेषवृत्तिः—च.

३. ततश्च—छ.

उच्यते—

भेदोपहितसामान्यवचनेऽप्यपृथक्श्रुतिः ।

को राजा याति ? पाञ्चालराज इत्यभिधीक्ष्यते ॥ २८ ॥

रिक्तार्थयोश्च सामानाधिकरण्यायोगात्, करहस्तादिशब्दवत् । यदा तु पचतीत्यत्र प्रकृत्यंशे-
नोत्तरमुच्यते, करोतिश्च धात्वर्थसामान्यवचन इति पक्षः, तदोभयोः सामान्यविशेषाभिधायिनोः
करोतिपचत्योरभिधेयद्वारकं सामानाधिकरण्यमविरुद्धम् । तस्मादेष एव पक्षो ग्राह्य इत्यभि-
प्रायः । तत्र परिहारमाह—

उच्यते—

भेदोपहितसामान्यवचनेऽप्यपृथक्श्रुतिः (:) ।

को राजा याति ? पाञ्चालराज इत्यभिधीक्ष्यते ॥ इति ॥

अयमर्थः—सामान्याभिधायिनोऽशब्दयोः सामानाधिकरण्यं नोपपद्यत इति यदुक्तम्,
तत्र सर्वत्र । यत्र द्वावपि शब्दौ केवलसामान्यवचनौ तरुवृक्षादिशब्दवत्, तत्र सामानाधि-
करण्यानुपपत्तिः । यत्र द्वयोस्सामान्यवाचित्वाविशेषेऽप्येकं शुद्धं सामान्यस्वरूपमाचष्टे, अन्यस्तु
केनचित् उपाधिना विशिष्टं प्रतिपादयति, तत्र सामानाधिकरण्यमुपपद्यते । दृश्यते हि ‘को
राजा याति’ इति प्रश्नवाक्यवृत्तिना केवलराजसामान्यवाचिना राजशब्देन ‘पाञ्चालराजः’
इति प्रतिवचनगतस्य राजशब्दस्य पाञ्चालराज्यजनपदविशिष्टराजसामान्यवचनस्य सामा-
नाधिकरण्यम् । एवमत्रापि करोतिना शुद्धसामान्यवाचिना धात्वर्थोपाध्यवच्छिन्नभावना-
सामान्यवाचिनः प्रत्ययस्य सामानाधिकरण्यमविरुद्धमिति । अत्रैषा अक्षरयोजना । २ भेदोप

१. प्रतिवचनं न तस्य राज—च.

२. भेदोपहितं यत्सामान्यं तद्वचनेति वचनगते
शब्दे अपृथक्श्रुति—च.

प्रश्नवर्तिना हि सामान्यशब्देन व्यवच्छिन्नसामान्यविषयाः श्रुतयः परिदृष्टसमानाधिकरणप्रयोगाः^१; को राजा याति? पाञ्चाल-राज इति यथा ।

युक्त एवोत्तरे सामान्यनिर्देशः; अन्यथा प्रश्नगतं तदपेक्षणीयं

हितं केनचिदुपाधिभेदेनोपहितं यत्सामान्यं तद्वचने प्रतिवचनगते शब्दे अपृथक्श्रुतिः सामानाधिकरण्यमभिधीयते । केन सामानाधिकरण्यमित्यपेक्षायां प्रश्नवाक्यगतेन केवल-सामान्यवचनेन शब्देनेति द्रष्टव्यम् । अथवा भेदोपहितसामान्यशब्दाभ्यां वचनशब्दः प्रत्येकमभिसम्बध्यते—भेदोपहितवचने सामान्यवचने चेति । भेदोपहितं किमित्यपेक्षायां सामान्यमेव सन्निधानादवगम्यते । प्रश्नवचने सामान्यमात्राभिधाने प्रतिवचने चोपहित-सामान्याभिधाने सति सामानाधिकरण्यमुपपद्यत इति । शेषं सुगमम् । एतद्विवृणोति—प्रश्नवर्तिना हि सामान्यशब्देन व्यवच्छिन्नसामान्यविषयाः श्रुतयः परिदृष्टसमानाधिकरण-प्रयोगाः; 'को राजा याति? पाञ्चालराजः' इति यथा इति । नात्र तिरोहितं किञ्चिदपि^२

ननु तत्राप्युत्तरे विशेषनिर्देश एव श्रुतः, न सामान्यनिर्देशः, सामान्यस्यासिद्धत्वात् विशेषस्यैव पृष्टत्वात् कथमसिद्धमसिद्धेन साध्यत इत्याशङ्क्याह—युक्त एवोत्तरे सामान्य-निर्देशः, अन्यथा प्रश्नगतं तदपेक्षणीयं स्यादिति । यद्युत्तरे सामान्यनिर्देशो न क्रियते पाञ्चाल इत्येतावदेवोच्येत^३, तदा प्रश्नवाक्यगतं तत्सामान्यपेक्षणीयं स्यात् । अन्यथा प्रश्नविषयरजसामान्यविशेषत्वं पाञ्चालजनपदसंबन्धिनो न सिद्ध्यति, तस्य राजव्यतिरिक्त-स्यापि भावात् । प्रश्नगतसामान्यापेक्षायान्तु प्रष्टुः सुखप्रतिपत्तिर्न स्यात् इति । मा भूत्सुख-प्रतिपत्तिः, प्रतिपत्तिस्तु कथञ्चिद्भवत्येव । दृश्यते चोत्तरे विशेषमात्रस्यैव निर्देशः 'को वृक्षः?'

१. सामानाधिकरण्यप्रयोगाः—ख.

४. 'असिद्धं' नास्ति—छ.

२. किञ्चिदस्ति—छ.

५. उच्यते—च.

३. युक्तं—च.

स्यात्^१, विशेषतस्तु भावनाया^२ असंविज्ञानपदभेदत्वात्परोपधान-
व्यज्यमान^३स्फुटविशेषायाः । तस्मान्न सिद्धसाधनम्, न^४ विपर्यय-
साधनम्, ^५न दृष्टान्ताभावः ।

शिशपा^१ इत्यादौ । तत्रोत्तरे सामान्यनिर्देशो नियमेन ^६न कर्तव्य इत्याशङ्क्याह—विशेष(त)-
स्तु भावनाया^१ असंविज्ञानपदभेदत्वात्परोपधानव्यज्यमानस्फुटविशेषाया इति । अस्तु वा
अन्यत्रोत्तरे विशेषमात्रस्यैव कदाचिन्निर्देशः, विशेषवाचिनश्शब्दस्य भावात्, भावनायास्त्व-
संविज्ञानपदभेदत्वादुत्तरे विशेषनिर्देशः कदाचिदपि नोपपद्यते ।

ननु किमिदमसंविज्ञानपदभेदत्वं नाम ? उच्यते—सम्यक् विशेषाकारेण ज्ञायतेऽर्थो
येन पदेन तत्संविज्ञानपदम्, तस्य भेदो विशेषः संविज्ञानपदभेदः, न स विद्यते यस्या भावनाया-
स्सेयमसंविज्ञानपदभेदा^७, तद्भावोऽसंविज्ञानपदभेदत्वम् । न कश्चिदपि शब्दो भावनाविशे-
षेण^८ गृहीतसम्बन्धोऽस्तीत्यर्थः । तस्मादुत्तरे नियमेन सामान्यनिर्देशो युक्तः । ^९असंविज्ञान-
पदभेदाया भावनायाः कथं विशेषसिद्धिरित्याकाङ्क्षायामुक्तम्—परोपधानव्यज्यमानस्फुट-
विशेषाया इति । परेण धात्वर्थेनोपधानेन व्यज्यमानः [स न] स्फुटो भवति यस्या विशेषः,
सेयं परोपधानव्यज्यमानस्फुटविशेषा भावना, तस्याः सामान्यनिर्देश एवोत्तरे युक्त इत्यर्थः ।
एवं च सति सामानाधिकरण्यादित्यादिना पूर्वपक्षे ये दोषा उक्ताः ते परिहृता भवन्तीत्याह—
तस्मान्न सिद्धसाधनम्, न विपर्ययसाधनम्, न दृष्टान्ताभाव इति ॥ करोतिसामानाधिकरण्येन
पचत्यादीनां करोत्यर्थविशेषाभिधानानुमानपक्षे धातूनामेव विशेषाभिधानसम्भवप्रतिपादनमुखेन

१. गतस्तदपेक्षणीयः स्यात्—क, ख.

२. असंविज्ञात—ग, घ, ङ.

३. 'स्फुट' नास्ति—ग, घ, ङ.

४. विपर्ययासाधनं—घ.

५. नादृष्टान्तता—क, ख ; नाप्यदृष्टान्तता—
ग, घ, ङ.

६. 'न' नास्ति—छ.

७. पदभेदातुपदभेदा तद्भावः—च. पदभेदः
तद्भावः संविज्ञानपदभेदत्वं—छ.

८. विशेषण—च.

९. असंभेदाया भावनायाः—च.

भावाभावे प्रयोगस्तु द्विधापि न ^१निरीक्ष्यते ।

अन्ततस्सोऽस्ति^२ धात्वर्थगोचरो लक्ष्यते तथा ॥ २९ ॥

सिद्धसाधनमुक्तं न प्राप्नोति, प्रत्ययस्यैवैकस्याप्यनेकेषु विशेषेषु प्रकृत्यर्थान्वयाधीनाविभविषु तदपेक्षया वृत्तिसम्भवस्योक्तत्वात् । विपर्ययसाधनदृष्टान्ताभावौ तु करोत्यर्थमात्राभिधानानुमान-
पक्षानाश्रयणादेव परिहृतौ, तयोस्तत्पक्षाश्रयत्वात् ॥

यत्पुनरुक्तं करोतेरपि तावद्भाववचनत्वमनुपपन्नम्, तदभावेऽपि प्रयोगदर्शनात्,
कुतस्तत्सामानाधिकरण्यात्पचत्यादीनां तादर्थ्यानुमानमिति ।

तस्योत्तरमाह—

भावाभावे प्रयोगस्तु द्विधापि न निरीक्ष्यते ।

अन्ततस्सोऽस्ति धात्वर्थगोचरो लक्ष्यते तथा ॥ इति ॥

अयमर्थः—योऽयं भाव्याभावेन भावनावाचिशब्दाभावेन च द्विविधो भावनाया
अभावः, तत्र करोतेः प्रयोगो निरीक्ष्यत इति यदुक्तम्, तन्नास्ति ; तत्रापि भावनाया भावात्^३
कथम् ? घण्टा ध्वनतीत्यत्र तावद्भावना भवत्येव, भाव्यस्य भावात् । भाव्याभावेन हि तत्र
भावनाया अभाव उच्यते । भाव्यस्य चाभावोऽसिद्धः । कस्तर्हि तत्र भाव्यः ? धात्वर्थ
एवान्ततो भाव्यः, सुखादीनां सतामप्यविवक्षितत्वात् । नच ‘का क्रिया ? पाकः’ इत्यापि
भावना नास्ति । भावनाया वाचकत्वाभिमतारूपातप्रत्ययाभावेन हि तत्राभाव उच्यते,
स्वरूपेण विद्यमानाया अपि शब्दार्थरूपेणाभावात् । तत्र यद्यपि आख्यातप्रत्ययो नास्ति,
तथापि भावना शब्दार्थत्वं न जहाति, यतोऽत्र पाक इत्यस्यैव शब्दस्यासावर्थः । यद्यपि पाक
इति घञन्तेन धात्वर्थवचनेन^४ नाभिधीयते भावना, तथापि लक्षणया प्रतिपाद्यते, अभिवेयस्य

१. निरीक्षितः—ख, ग, घ, ङ.

२. सोऽपि—ग, घ, ङ.

३. अभावात्—च.

४. ‘न’ नास्ति—छ.

घण्टा ध्वनतीति^१ भाव्याभावेन भावनाया अभाव उच्यते ।
^२सर्वश्च धात्वर्थः किञ्चिदसदुत्पादयति । ध्वननमपि सुखं ^३दुःखं
 ज्ञानं वा । अन्ततो^४ धात्वर्थ एव भाव्यः । नहि सर्वत्र धात्वर्थस्य
^५करणतैव, कर्मतापि तु ^६क्वचित्तन्मात्रनिर्वृत्तिविवक्षायाम् । का

पाकस्य भावनाया विना अभावात् । तदेतदुक्तम्—लक्ष्यते तथेति । एतत्प्रपञ्चयति—
घण्टा ध्वनतीति भाव्याभावेन भावनाया अभाव उच्यते । सर्वश्च धात्वर्थः किञ्चिदसदुत्पाद-
यति । ध्वननमपि सुखं दुःखं^७ ज्ञानं वा । अन्ततो धात्वर्थ एव भाव्य इति ॥ अयमर्थः—
 ध्वनतीत्यत्र धात्वर्थ एव भाव्यः परिशिष्यते । सुखदुःखज्ञानानामस्मिन्प्रयोगेऽविवक्षितत्वात्तद्भा-
 व्या भावना^८ विद्यमानापीह न^९ शब्दार्थीभवितुमर्हतीति धात्वर्थभाव्यैव भावना ध्वनतीत्यत्र
 प्रत्ययेनाभिधीयते । ततश्च तत्सामानाधिकरण्यस्य^{१०} ‘ किं करोति घण्टा ’ इति प्रश्नवाक्य-
 वर्तिनः करोतेर्न भावनाया अभावे प्रयोग इति ॥

ननु धात्वर्थस्य भावनायां करणत्वमभ्युपगम्यते ; तत्र कथं कर्मत्वमित्याशङ्क्याह—
 नहि सर्वत्र धात्वर्थस्य करणतैव, कर्मतापि (तु) क्वचित्तन्मात्रनिर्वृत्तिविवक्षायामिति ।
 अयमर्थः—न सर्वत्र धात्वर्थस्य करणतैव शब्देनाभिधीयते, किन्तु कर्मतापि क्वचित्, यत्र
 धात्वर्थनिर्वृत्तिमात्रं विवक्ष्यते—यथा ‘ अग्निहोत्रं जुहोति ’ इत्यादौ । तत्र कर्मतैव
 धात्वर्थस्य शब्देनाभिधीयते, न करणता । एतदुक्तं भवति—धात्वर्थस्य ^{११}भावनाया निर्वर्त्य-

१. ध्वनतीति हि भाव्या—ग, घ ; भाव्या-

भावेन हि—ङ.

२. सर्वत्र—क, ख ; सर्वस्तु—ङ.

३. दुःखज्ञानं वा—ग, घ, ङ.

४. अन्तरो—क, ख.

५. साधनतैव—क, ख.

६. क्वचित्तावन्मात्र—क, ख.

७. ‘ वा ’ अधिकं वर्तते—ङ.

८. तद्भाव्यभावना—च.

९. मानापि न शब्दार्थी—च ; मानापीह
 शब्दार्थी—ङ.

१०. किं करोति प्रश्नवाक्य—ङ.

११. भावनाया—च.

क्रिया? पाकः इति ^१च, द्विविधत्वाच्छब्दार्थस्य श्रौतलक्ष्य^२माण-
भेदेन । ^३अतो नाभावो भावनायाः शब्दतः, तद्विशेष^४लक्षणार्थ-
त्वात्पाकशब्दस्य ।

मानत्वात्कर्मत्वं विद्यते फलापेक्षया करणत्वञ्च । तत्र तस्य अनयोः कर्मकरणत्वयोः यद्यदा
विवक्ष्यते तत्तदा अभिधीयते । ध्वनतीत्यत्र तु धात्वर्थनिर्वृत्तिमात्रं विवक्षितम्, न तत्करणस्य
फलान्तरस्य निर्वृत्तिर्विवक्षिता । अतो युक्तं धात्वर्थकर्मिकाया भावनाया अभिधानमिति ॥
नच सर्वा पुरुषार्थकर्मिकैव भावनेति नियमोऽस्ति, अचेतनकर्तृकायास्तस्याः स्वरूपापेक्षित-
भाव्यमात्रपर्यवसानात् । चेतनकर्तृकापि न सर्वा पुरुषार्थकर्मिका, प्रमादकृतायां व्यभिचा-
रात् । या तु चेतनस्य बुद्धिपूर्विका भावना [सा] नियमेन समुद्दिष्टपुरुषार्थभाव्यविशेषकर्मिका,
सापि कदाचित्समुद्दिष्टमपि पुरुषार्थं भाव्यं ^५व्यभिचरति यथा—मिथ्याज्ञानपूर्विका प्रति-
षिद्धहिसादिविषया भावना । अतः सम्यक्ज्ञानपूर्विका पुरुषस्य प्रवृत्तिर्भावना नियमेन
पुरुषार्थभाव्या, नान्येत्यलमतिप्रपञ्चेन ॥

इदानीं ‘लक्ष्यते तथा’ इति श्लोकैकदेशार्थाविष्करणायाह—का क्रिया? पाक इति
च द्विविधत्वाच्छब्दार्थस्य श्रौतलक्ष्यमाणभेदेन । अतो नाभावो भावनायाश्शब्दतः, तद्विशेष-
लक्षणार्थत्वात् पाकशब्दस्येति ॥ का क्रिया पाक इत्यत्रापि नाभावो भावनायाश्शब्दतः इति
व्यवहितेन सम्बन्धः । कथं शब्दतो नाभावो भावनायाः, यस्माद्धवता ^६तद्वाचकत्वाभिमतः
शब्द आख्यातप्रत्यय इह नोपलभ्यते । पाकशब्द इह प्रयुज्यते । तस्य च भावना अर्थो न
भवतीत्या^७शङ्कापाकरणायोक्तम्—द्विविधत्वाच्छब्दार्थस्य श्रौतलक्ष्यमाणभेदेनेति । द्विविधो हि

१. चेहापि द्विविध—ग, घ.

५. व्यपदिशति—च.

२. लक्ष्यभेदेन—ख, ग, घ; श्रौतभेदेन—ङ.

६. तद्वाचकाभिमतः—झ.

३. ‘अतो’ नास्ति—क, ख, ग, घ, ङ.

७. आशङ्कावारणायोक्तम्—छ.

४. लक्षणोपधानत्वात्—क, ख; लक्षणा-
प्रवणत्वात्—ग, घ, ङ.

तिङन्तेऽपि तर्हि ^१लक्ष्यमाण एव भावोऽस्तु । नैतत्सारम् ।
यतः^२—

कः पाकः^३पचतीत्यत्र बुद्धिभेदमपहृते ।

न भावनापरामर्शमन्तरेण च^४ भाव्यता ॥ ३० ॥

शब्दस्यार्थः श्रौतो लक्ष्यमाणश्च । यत्र वृद्धव्यवहारेणाभिधानसामर्थ्यं गृह्यते, स श्रौतो नामार्थः । यत्र त्वभिधेयस्यार्थस्यासम्भवे सति तदविनाभावादन्यसिन्नर्थे शब्दात्प्रतिपत्तिर्भवति, स लक्ष्यमाणोऽर्थः । यद्यपि पाकशब्दस्य श्रौतोऽर्थो न भवति भावना, तथाऽपि लक्ष्यमाणोऽर्थो^५ भवत्येव । तत्कथमित्यस्यामाकाङ्क्षायामुक्तम्—पाकशब्दस्य तद्विशेषलक्षणा-प्रधानत्वादिति ॥ तद्विशेषो भावनाविशेषः तस्य लक्षणया प्रतिपादनपरत्वात् । पाकशब्दः स्वार्थाभिधानद्वारेण तदविनाभाविनं भावनाविशेषं लक्षयति । पाकशब्दस्यैव लक्षणया भावना-शब्दत्वान्न शब्दतोऽभावो भावनायोः । ततश्च का क्रियेति प्रश्नवाक्ये करोतेः प्रयोगो न भावनाया अभावे, किन्तु भाव एवेति सिद्धम् ॥

एवं पाकशब्दस्य ^६करोतिना लक्षितार्थद्वारके सामानाधिकरण्येऽभ्युपगम्यमाने तिङन्ते-
ऽपि करोतिसामानाधिकरण्येनाभिधेया भावना न सिद्धयति । अपि तु लक्ष्यमाणैव, घञन्त-
वदिति यदनिष्टापादनं कृतं पूर्वपक्षे, तदुद्धारणायोत्थापयति—तिङन्तेऽपि तर्हि लक्ष्यमाण
एव भावोऽस्त्विति ॥ तस्य परिहारमाह—

१. लक्ष्य एव—क, ख, ग, घ, ङ.

३. पाकं—क, ख.

२. “यतः” नास्ति—क, ख; ‘यतः’ सर्वत्र

४. ‘च’ नास्ति—क.

कः पाको बुद्धिभेदमपहृते न भावनापरामर्श-

५. माणार्थो—च.

मन्तरेण च भाक्तमेतत्—ग, घ, ङ.

६. करोतिना पाकशब्दस्य—च.

इदं भवान् पृष्ठो व्याचष्टाम्—पाकः पचतीत्यनयोर्धात्वर्थो भिद्यते, न वा भिद्यते, इति । को हि स्फुटं प्रत्ययभेदमवजानीते^१ । तथाहि—तिङन्ते भाव्यः स गम्यते न तथाभूतो(रूपो) घञन्ते,

नैतत्सारम्, यतः—

कः ४पाकः पचतीत्यत्र बुद्धिभेदमपह्नुते ।

न भावनापरमर्शमन्तरेण च भाव्यता ॥ (इति) ॥

अयमर्थः—घञन्ते लक्ष्यते भावना, नाभिधीयते, तिङन्ते त्वभिधीयते इत्यत्र ५विशेष-हेतुरत्रोच्यते । कोऽसौ हेतुः ? धात्वर्थविषयो बुद्धिभेदः सिद्धसाध्यत्वरूपः । स चायं बुद्धिभेदः न शक्यते नास्तीति वदितुम्, अतिस्फुटत्वात् । या च तिङन्ते प्रतीयमाना धात्वर्थस्य भाव्यता सा अभिधेयभावनासंस्पर्शमन्तरेण न सम्भवति । लक्ष्यमाणभावनासंस्पर्शस्य घञन्तेऽपि भावात् इत्यभिप्रायः ॥

इदानीं पक्षविभागेन श्लोकोक्तमर्थं व्याख्यातुकामः विकल्पयति—इदं भवान्पृष्ठो व्याचष्टाम्—पाकः पचतीत्यनयोर्धात्वर्थो भिद्यते, न वा भिद्यत इति (इति) ॥ न भिद्यत इत्येष तावत्पक्षोऽनुपपन्न इत्याह—को हि स्फुटं प्रत्ययभेदमवजानीते इति ॥ योऽपि तिङन्तेष्वभिधेयां भावनामवजानीते पूर्वपक्षवादी, सोऽपि घञन्ते तिङन्ते च धात्वर्थविषयं बुद्धिभेदं नावजानीते इत्यर्थः ॥ बुद्धिभेदं दर्शयति—तथा हि—तिङन्ते भाव्यः स गम्यते न तथाभूतो (रूपो) घञन्त इति ॥ स धात्वर्थः तिङन्ते पदे भाव्यो गम्यते साध्यरूपेण प्रतीयते, घञन्ते

१. पचतीत्यनयोर्भिद्यते धात्वर्थो नवा—क, ख.

पचतीत्यत्र धात्वर्थो भिद्यते नवेति—ग,

घ, ङ.

२. अवजानीते । अङ्गीकुर्मः प्रत्ययभेदम्, पच-

तीति भाव्यः स गम्यते न तथा घञन्ते—
क, ख.

३. 'घञः' नास्ति—च.

४. पाकं—च.

५. 'विशेष'—नास्ति—च.

भावे तद्विधानात्, शुद्धस्य च धात्वर्थस्य तत्त्वव्याख्यानात्—
'धात्वर्थः केवलः शुद्धो भाव इत्यभिधीयते' इति ॥

तत्तर्हि भाव्यत्वं १भावनासंस्पर्शकृतमिति तिङन्तानां २सा

तु पदे न तथारूपो भाव्यरूपो गम्यते, किन्तु सिद्धरूप एवेति । तत्र हेतुमाह—भावे तद्विधानादिति । तस्य घञो भावे विधानादित्यर्थः। भवतु भावे विधानं घञः, कथमेतावता घञन्ते साध्यताप्रतीतिर्धात्वर्थस्य निवार्यत इत्याशङ्क्याह—शुद्धस्य च धात्वर्थस्य तत्त्वव्याख्यानादिति ॥ शुद्धस्य साध्यतारूपरहितस्य धात्वर्थस्य तत्त्वेन ३भाव्यत्वेन व्याख्यानादिति । एतदेव दर्शयति—धात्वर्थः केवलः शुद्धो भाव इत्यभिधीयते इति (इति) ॥ अत्र केवल-शब्देन कारकसंसर्गरहितत्वं विवक्ष्यते । शुद्धशब्देन साध्यतारहितत्वमिति । अतो घञन्ते सिद्धरूपो धात्वर्थो गम्यते । तिङन्ते तु साध्यरूप इत्यभ्युपेयम् ।

भवतु तर्हि तिङन्ते भाव्यत्वं धात्वर्थस्य । कथमेतावता भावनाया अभिधेयत्वनिश्चय इत्याशङ्क्याह—तत्तर्हि भाव्यत्वं भावनासंस्पर्शकृतमिति ॥ यद्भाव्यत्वं धात्वर्थस्य तिङन्ते प्रतीयते, ४तद्भावनासंस्पर्शात्, न स्वतः। स्वतस्तु सिद्धस्वभावत्वम् । अतो धात्वर्थस्यावगम्यमानं साध्यत्वमन्यथानुपपत्त्या शब्दाभिहितसाध्यस्वभावभावनासंस्पर्शं गमयति । अतस्तिङन्तानां भावना अर्थ इति निश्चीयते । ननु गम्यमानभावना ५संस्पर्शादप्युपपद्यमानत्वाद्व्याख्यासाध्यता नाभिधीयमानभावनासंस्पर्शं ६ गमयतीत्याशङ्क्याह—गम्यमानत्वे हि तिङन्त-घञन्तयोर्नैव धीर्भिद्येत, अविशेषादिति । यदि तिङन्तेऽपि गम्यमानत्वमेव भावनायाः, नाभि-

१. भावनासंसर्गः—ख.

२. सोऽर्थः—ख, ग, घ, ङ.

३. भाव्यत्वेन—छ.

४. तद्भावनासंस्पर्शात्—च.

५. संस्पर्शत्वाद—च.

६. संसर्ग—छ.

अर्थः । गम्यमानत्वे हि तिङन्तघञन्तयोः १ नैव धीर्भिद्येत, अविशेषात् ।

नच २ साधनसम्बन्धाद्भेदः^३, ४ ‘गम्यते’ ‘स्थीयते’ इति प्रसङ्गात् ।

धेयत्वम्, तदा गम्यमानत्वस्य घञन्तेऽप्यविशिष्टत्वात् अभिधेयत्वस्योभयत्राप्यभावात् घञन्ते तिङन्ते च न बुद्धिर्भिद्येत । भिद्यते च सिद्धसाध्यरूपभेदेन । अतस्तिङन्ते भावना अभिधेयेति निश्चीयते ॥

ननु तिङन्ते धात्वर्थस्य साध्यताप्रतीतिः साधनसम्बन्धादप्युपपद्यते अन्तरेण भावना-संस्पर्शम् । तत्र हि धात्वर्थस्य कर्तृसाधनेन सम्बन्धोऽवगम्यते, तिङः कर्तरि सरणात् । अतः साधनसम्बन्धात्तिङन्ते ६ साध्यत्वप्रतीतिः, न भावनासम्बन्धात् । तथा घञन्तेऽपि साधन-सम्बन्धाभावादेव सिद्धरूपप्रतीतिर्धात्वर्थस्य, न भावनासंस्पर्शाभावात् । नहि तत्र भावना-(साधन)सम्बन्धो गम्यते, तस्य भावे विधानात् । ‘धात्वर्थः केवलः’ इति च कारक-सम्बन्धरहितस्य धात्वर्थस्य भावत्वव्याख्यानात् । अतः साधनसम्बन्धासम्बन्धनिबन्धनः तिङन्तघञन्तयोः धात्वर्थे बुद्धिभेदः, न भावनासम्बन्धासम्बन्धनिबन्धन इत्याशङ्क्याह—
नच साधनसम्बन्धाद्भेदः, ‘गम्यते’ ‘स्थीयते’ इति प्रसङ्गादिति ॥ योऽयं तिङन्त-घञन्तयोर्धात्वर्थे बुद्धिभेदः, न ७स साधनसम्बन्धनिबन्धन इति शक्यते वक्तुम्, गम्यते

१. नैव धीर्भिद्यताम्, अविशेषात्—क; नैव-भिद्यतां विशेषः—ख; धीर्भिद्येत, अविशेषात्—ग, घ; विभिद्येत, अविशेषात्—ङ.

२. साधनसाध्यसंबन्धात्—क, ग, ङ.

३. भेदावगमः—क, ग, घ, ङ.

४. ‘गम्यते’ नास्ति—क, ग, घ, ङ.

५. इत्यत्रापि प्रसङ्गात्—क, ख; इत्यत्रा-प्रसङ्गात्—ग, घ; इत्यप्रसङ्गात्—ङ.

६. साध्यप्रतीतिः—च.

७. ‘स’ नास्ति—च.

किञ्च—

पाकं करोति पचतीत्याख्यातार्थो निदर्शयते ।
भेदेन शब्दवृत्तिज्ञैः^२ पाकादौ नत्वयं क्रमः ॥ ३१ ॥

इति स्थीयते इति चोभयत्र बुद्धिभेदप्रसङ्गात् । तथाहि—गम्यत इत्यत्र कर्मणि लकारः, गमेस्सकर्मकत्वात् । अतस्तत्र कर्मणा साधनेन सम्बन्धो धात्वर्थस्य गम्यते । स्थीयते इत्यत्र तु भावे लकारः, तिष्ठतेरकर्मकत्वात् ‘भावे चाकर्मकेभ्यः’ इति च स्मरणात् । अतस्तत्र साधनसम्बन्धो न प्रतीयते । अतश्चोभयत्र प्रतीतिर्भिद्येत, गम्यत इत्यत्र साध्यरूपेण धात्वर्थे प्रतीतिरस्यात् साधनसम्बन्धावगमात्, स्थीयते इत्यत्र तु सिद्धरूपेण, साधनसम्बन्धानवगमात् । नचैवमस्ति, उभयत्रापि साध्यताप्रतीतेरविशिष्टत्वात् । तस्मान्न साधनसम्बन्धाद्भेदः, किन्तु भावनासंबन्धादेवेति निश्चीयत इति ॥

इतश्च तिङन्ते धात्वर्थातिरेकेण भावना अभिधीयते, न घञन्त इव धात्वर्थमात्रमित्याह—

किञ्च—

पाकं करोति पचतीत्याख्यातार्थो निदर्शयते ।
भेदेन शब्दवृत्तिज्ञैः पाकादौ न त्वयं क्रमः ॥ (इति) ॥

अयमर्थः—पचतीत्यस्य शब्दस्य कोऽर्थः इति केनचिज्ज्ञासुना पृष्टः अन्यः शब्द-वृत्तिवित् तस्यार्थं भेदेन निदर्शयन् दृश्यते—पाकं करोतीत्यर्थ इति । अतो गम्यतेऽस्य शब्दस्य द्वावर्थावनेन प्रतिपन्नौ—पाकः करोत्यर्थश्चेति । यस्तु घञान्तः पाकादिशब्दः, तत्र नायं क्रमः, क्रमेण द्वावर्थौ न३ निदर्शयते, किन्तु एक एव, पाक इति विक्लितिरित्यर्थः इति ।

१. हि दृश्यते—ख ; न दृश्यते—ग, घ, ङ. ३. न हि दृश्यते—छ.

२. वृत्तिज्ञः—ख.

पचति, पाकं करोतीति तिङन्तपदार्थं भेदेन ^१निदर्शयति
^२नाप्रतिपद्य भेदम्, पाकादिषु तु न तथा, भेदप्रतिपत्तेरभावादिति
गम्यते ।

^३परिकल्प्य भेदं तथोपदर्शनम्, ^४पाकस्याभिनिर्वर्तनं ^५करो-

अतो गम्यते नास्त्यर्थभेद इति । एतद्विवृणोति—पचति पाकं करोतीति तिङन्तपदार्थं
भेदेन (नि)दर्शयति नाप्रतिपद्य भेदम्, पाकादिषु न तथा, भेदप्रतिपत्तेरभावादिति गम्यते इति ॥
अयमर्थः—पचतीत्यस्य तिङन्तस्य ^६पदस्यार्थं भेदेन दर्शयति—पाकं करोतीति ॥ नन्वे-
कार्थभेदनिदर्शनेन कथमर्थभेदनिश्चयः? यावता भेदप्रतिपत्तिर्भेदे प्रमाणम्, न भेदेनार्थप्रदर्शनं
नाम प्रमाणमस्तीत्याशङ्क्योक्तम्—नाप्रतिपद्य भेदमिति ॥ भेदमप्रतिपद्य नार्थः^७ भेदेन
दर्शयति, किन्तु प्रतिपद्यैव । प्रतिपन्नं ह्यर्थं परस्मै प्रतिपादयति, नाप्रतिपन्नम् । तस्मादर्थ-
भेदनिदर्शनादवगम्यते पचतीत्यस्य शब्दस्य द्वावर्थौ प्रकृतिप्रत्ययविभागेन प्रतिपन्नौ, प्रकृत्यर्थः
पाकः, प्रत्ययार्थः करोत्यर्थ इति (इति) गम्यते । पाकादिषु घञाद्यन्तेषु पदेषु न तथा
भेदेनार्थं^८ निदर्शयति, किन्त्वेक एव, पाक इति कोऽर्थः? विह्वलितिरिति । तस्मादवगम्यते
आख्याते द्वावर्थौ प्रतिपद्यन्ते प्रतिपत्तारः पाकं धात्वर्थं प्रत्ययार्थं च करोत्यर्थम् । घञाद्यन्ते
तु ^९नार्थभेदं प्रतिपद्यन्ते, भेदेन निदर्शनाभावादिति । तस्मादाख्यातप्रत्यये सति करोत्यर्थ-
प्रतीतिदर्शनात् ^{१०}तदभावे चादर्शनात्तिङभिधेया भावना, नतु तल्लक्ष्येति सिद्धम् ॥

तत्र शङ्कते—परिकल्प्य भेदं तथोपदर्शनम्, पाकस्याभिनिर्वर्तनं करोतीति यथेति

१. ' दर्शयति—ख

२. नचाप्रतिपद्य भेदं पाकादिषु न तथा—क ;
न प्रतिपद्य भेदं पाकादिषु न तथा—ख.

३. पच्यभावा—क, ख, ग, घ, ङ.

४. 'पाकस्याभिनिर्वर्तनं—क, ख. पाकस्या'
भिनिर्वर्तनं—ग, घ, ङ.

५. करोति यथेति—ग, घ, ङ.

६. पदस्यार्थभेदेन—च.

७. पद्यमानार्थ—छ.

८. अर्थ दर्शयति किन्त्वेकमेव—छ.

९. नार्थभेदः प्रतिपद्यते—च.

१०. तदभावेऽदर्शनात्—च.

तीति यथेति चेत्—न, ^१पाकादावनिदर्शनात् । शब्दोपकल्पित-
स्तिङन्तेष्वपि भेद इति चेत्—अस्तु तावच्छब्दार्थभेदः, ^२वस्तुन्युप-
पादयिष्यते ।

चेत् इति ॥ अयमर्थः—नैव पचतीत्यर्थभेदोऽस्ति, अपि तु एक एव धात्वर्थः, तस्यैव तु बुद्ध्या भेदं परिकल्प्य तथोपदर्शनं—भेदेनोपदर्शनम्, अभिनिर्वर्तनम् करोतीति यथा । नहि तत्र करोत्यर्थादन्या काचिदभिनिर्वर्तना । तत्र बुद्ध्या भेदं परिकल्प्य भेदेन निदर्शनमिति अवश्यं भावनावादिनाप्यभ्युपगन्तव्यम्, तदभाववादिना धात्वर्थे तदाश्रीयते इति चेदिति ॥ अत्रोत्तरमाह—न पाकादावनिदर्शनादिति ॥ पाकादाव(दौ भेदेन)निदर्शनात्, इतरथा पाकादावपि परिकल्पनापूर्वकस्य भेदनिदर्शनस्य प्रसङ्गात् । अतो न कल्पितभेदापेक्षया भेदनिदर्शनम्, अपि तु शब्दार्थभेदप्रतिपत्तिनिबन्धनम्, भेदकल्पनाया ज्ञानरूपत्वान्निरालम्बनत्वानुपपत्तेरित्यभिप्रायः ॥

पुनश्शङ्कते—शब्दोपकल्पितस्तिङन्तेष्वपि भेद इति चेदिति ॥ भवतु भेदनिदर्शना-
तिङन्तेष्वर्थभेदः, स तु न वास्तवः,^४ अपि तु शब्दोपकल्पितः^५ । स एव भेदज्ञानस्या-
लम्बनम् । तिङन्तेष्वपीत्यपिशब्दस्यायमर्थः—न कचिदर्थभेदोऽस्ति तिङन्तेषु घञन्तेषु च ;
यस्तु तिङन्तेषु प्रतीयते सोऽपि न वास्तव इति ॥ अत्रोत्तरमाह—अस्तु तावच्छब्द(ब्दार्थ)-
भेदः, वस्तुन्युपपादयिष्यत इति ॥ अस्तु तावच्छब्दार्थभेदस्तिङन्ते, वास्तवत्वन्तु तस्य अस्तु
वा, मा वा । घञन्ते त्वेक एवार्थः । वस्तुन्युपपादयिष्यते भेदः ज्ञानवच्छब्दानामपि स्वव्य-
तिरिक्तवस्त्वालम्बनत्वात् । अत्र तावच्छब्दः क्रमार्थः प्रयुक्तः । शब्दार्थभेदस्तावदादौ

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| १. पाकादावपि तथा प्रसङ्गात्—क, ख ; | ३. 'इति' नास्ति—च. |
| पाकादावपि भेदप्रतिपादनप्रसङ्गात्—ग, | ४. भेदः न स तु स न वास्तवः—च. |
| ङ. पाकादावपि भेदप्रतिपाददपि—घ. | ५. कल्पितम्—च. |
| २. वस्तुन्युपपादयिष्यायः—ग, घ, ङ. | |

Reviews

Śārīrakanyāyasaṅgraha by *Prakāśātmayatī* edited by Dr T. R. Chintamani, M. A., Ph.D., Senior Lecturer in Sanskrit, University of Madras, a Reprint from the Annals of Oriental Research, University of Madras, with a foreword by Mahamahopādhyāya Vidyāvācaspati Prof. S. Kuppuswami Sastriar, M. A., I.E.S., (Retd.), 1939.

Prakāśātmayatī, the author of the *Śārīrakanyāyasaṅgraha*, is popularly known as the *Vivaraṇakāra*, the author of the *Vivaraṇa*, the great commentary on the *Pañcapādikā* of Padmapādācārya, one of the direct disciples of Śrī Śaṅkara and one of the earliest commentators on Śrī Śaṅkara's Bhāṣya on the Vedānta sūtras. He is an epoch-maker in the history of Advaita Vedānta. His views on Advaita as embodied in his work were closely followed by a host of subsequent original writers and commentators in the Advaita system and his school is known to posterity as the *Vivaraṇa-prasthāna*, in contrast with the *Bhāmatī-prasthāna*, known after the great work *Bhāmatī* of Sarvaśaṅkaraśaṅkara Vācaspatiśaṅkara. The main reason for the development of these two independent schools among the commentators of Śrī Śaṅkara has been sufficiently and satisfactorily explained in his foreword by M. M. Prof. S. Kuppuswami Sastriar and in his preface by the editor.

This work under review is one of the minor works of *Prakāśātmayatī*. It is a gloss on the *Brahmasūtras* divided into various *adhikaraṇas*. In many instances it attempts no explanation of the sūtras. It follows the practice of enunciating the *Nyāyasaṅgraha* and interpreting the Upanisadic passage in question by the application of the *nyāya* or rule of interpretation. Since the text is very brief, it does not even present the *pūrvapakṣa* in many instances, though the *siddhānta*, or final conclusion is to be arrived at by the refutation of the *pūrvapakṣa*. This book shows clearly the limitations within which the rules of interpretation of the Karmakāṇḍa explained in the Pūrvamīmāṃsā Śāstra have to be applied to the Jñānakāṇḍa portion of the Vedas.

Though the *Vivaraṇa* is said to be a complete commentary on the *Pañcapādikā* to the extent of the first five pādas, both the text and the commentary are available in print and in manuscript to the extent of the end of *samanvayādhikaraṇa* (I 1.4) only. So the only work of *Prakāśātmayatī* which conveniently summarises his views on the

entire Vedānta is the *Śārīrakanyāyasaṅgraha* and in this respect the importance of this work cannot be over-estimated.

The present edition of the *Śārīrakanyāyasaṅgraha* is quite welcome especially because the 'Pandit' edition is not easily accessible to scholars. It has been competently edited with the help of three manuscripts. The value of this edition is very much enhanced by the foot-notes giving variations in readings from the three Mss., by Appendix I, which gives the readings of the 'Pandit' edition, by the alphabetical indices of the sūtras and citations and above all, by the valuable foreword of MM. Prof. S. Kuppaswami Sastriar, the great inspirer and guide of Sanskritic studies and research in South India. Dr. T. R. Chintamani deserves to be congratulated on having brought out this excellent edition of this important work in the field of Advaita Vedānta.

V. A. R.

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1. *Descriptive Catalogue of the Government Collections of Manuscripts*—deposited at the Deccan College, Poona, Compiled by the Assistant to the Professor of Sanskrit, Deccan College, Poona.
Vol. I. Vedic Literature.
Part I. Saṁhitās and Brāhmaṇas, 1916.
 2. *Descriptive Catalogue of Manuscripts in the Government Manuscripts Library*, Bhandarkar Oriental Research Institute, Poona, 1935.
Compiled by Hiralal Rasikdas Kapadia, M.A.
Vol. XVII. Jaina Literature and Philosophy.
Part I. Āgamika Literature.
 3. *Descriptive Catalogue of Manuscripts in the Government Manuscripts Library*, Bhandarkar Oriental Research Institute, Poona, 1936.
Compiled by Hiralal Rasikdas Kapadia, M.A.
Vol. XVII. Jaina Literature and Philosophy.
Part II Āgamika Literature.
 4. *Descriptive Catalogue of Manuscripts in the Government Manuscripts Library*, Bhandarkar Oriental Research Institute, Poona. Compiled by P. K. Gode, M.A., 1936.
Vol. XII. Alankāra, Saṁgīta and Nāṭya.
 5. *Descriptive Catalogue of Manuscripts in the Government Manuscripts Library*, Bhandarkar Oriental Research Institute, Poona. Compiled by P. K. Gode, M.A., 1937.
Vol. XIV Nāṭaka.

Indologists all over the world, particularly, those interested in Sanskrit Manuscripts, would welcome with joy these five volumes of the descriptive Catalogue of Sanskrit Manuscripts, belonging formerly to the Deccan College, Poona, and at present in the custody of the Bhandarkar Oriental Research Institute, Poona. The work of preparing a descriptive catalogue for the collection of Sanskrit Manuscripts in Poona was begun under the auspices of the Bombay Government in 1916 and was kept in abeyance for some time. Now that this work has been entrusted to the scholars of the Bhandarkar Oriental Research Institute, Poona, it may be reasonably hoped that this work will be completed soon. These volumes are prepared in accordance with approved methods of descriptive cataloguing and contain useful information

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University Notes

OUR VICE-CHANCELLOR.

On the 1st of June 1940 Dr. Sir Kurma Venkata Reddy Naidu Garu, K.C.I.E., D.Litt., M.L.C. took charge of the high office of Vice-chancellor of this University. It is a rare piece of good fortune that a gentleman of his eminence has consented to preside over the studies and direct the administration of this great seat of learning.

Founded on the unexampled munificence of that great patron of learning, the Rajah Sahib of Chettinad, this institution has been nurtured on the devoted and selfless services of a distinguished succession of Vice-Chancellors. It is a matter of no little pride and satisfaction to us that Diwan Bahadur S. E. Runganathan, our first Vice-chancellor, not only became the Vice-chancellor of a sister University but is now occupying the exalted position of Adviser to the Secretary of State for India. His successor, the Rt. Hon'ble V. S. Srinivasa Sastriar, is a member of His Majesty's Privy Council and a Companion of Honour. Now we have in our midst as Vice-chancellor Sir K. Venkata Reddy who has occupied the highest position under the Crown in this Presidency, namely, the Governorship of Madras.

To the onerous and responsible duties of Vice-chancellor of this young University, Sir K. V. Reddy Naidu brings not merely a disinterested love of higher learning but also a wide and varied experience of many years spent in the service of our mother-land. Both as an official and as a non-official he has won for himself a unique position in the public life of our country. His great abilities and high character came to public notice when the late Rajah of Panagal formed his first popular Ministry in Madras, and chose Sir K. V. Reddy as the Minister of Agriculture and Industries. He had also the rare honour of representing India in the League of Nations at Geneva in 1928. From Geneva the scene of Sir Venkata Reddy's labours shifted to South Africa where he represented the Government of India as its Agent-General. On his return from South Africa he became a member of the Council of State at Delhi; and in 1934 the Governor of Madras appointed him to his Executive Council as Member in charge of Law. His conspicuous success as a Member of the Executive Council was crowned by his appointment as Governor of Madras.

As leader of public opinion, as legislator, as Minister, as Executive Councillor, as Governor his life has been rich and full. And the treasures



DR SIR KURMA VENKATA REDDY NAIDU GARU,
KCIE, DLITT, MLC
OUR VICE-CHANCELLOR

of wisdom and experience that Sir Kurma has garnered during decades of unremitting labour he proposes to dedicate to the service of this University. In the new sphere of work that he has chosen for himself we assure him of the hearty and unstinted co-operation of one and all of the staff and of every scholar and researcher. May this University grow from strength to strength under his wise and distinguished direction!

SIR NORMAN MURRAY GOLD MEDAL.

Mr V. Sivaraman, M.A., M.Litt., former Research Scholar of Economics Department, won the Sir Norman Murray Gold Medal for scoring the highest number of marks in the recent examination of the Indian Institute of Bankers. We congratulate him most heartily.

M. LITT DEGREE.

On the recommendation of the Board of Examiners appointed to adjudicate on his thesis on "Road-Rail Transport in India" the Syndicate has declared Mr. S. R. N. Badri Rao, M.A., to be qualified for the award of the degree of M.Litt. of this University.

The Madras General Sales Tax Act — A Study

By

DR B. V. NARAYANASWAMY NAIDU, M.A., B.COM. PH.D.

AND

S. THIRUVENGADATHAN, B.A. (HONS.)

Section 1

INTRODUCTION

I

The Madras General Sales Tax Act was passed after a good deal of controversy in May 1939. It was considered at the time of passing the Act, by a certain section of legislators, that it had greater potentialities for doing evil than good. The chief characteristic of the Sales Tax *viz*, its productivity, went without much challenge; but it was contended, on a simple theory of incidence, that as the tax led to the consumers being indirectly taxed, it merely tended to aggravate the differences of the tax burden of the various sections of society. The statement of the sponsors of the measure that it was intended to correct the tax burden of the various sections of society failed to convince the opponents. It was thought that the higher prices charged to commodities would lead to a higher cost of living, followed by a clamour for wage rise, which if not granted, would perpetuate a very undesirable state of affairs especially as regards labourers. It was argued that integration, and disintegration of businesses to a greater extent, would be brought about and that middlemen would be ousted out of existence. A strong reaction to the stipulations enforcing the keeping of detailed accounts was also expected.

However in the face of all these criticisms, the measure was passed and more than 10 months have elapsed since it came into force. It was considered by the writers of this volume that a study of the working of the Act was an important field of useful investigation. Greater was the desire felt towards such an enquiry in the absence of any comprehensive Government report; it was thought that a study of the various allied problems related to Sales Tax with due attention to the criticisms advanced at the time of passing the Act, would greatly help a proper understanding of the position of the tax as a source of provincial revenue in Madras. A keen desire to know how far the criticisms were correct and to what extent they have been merely imaginary has impelled the writers to undertake this work.

This brochure cannot claim to be an exhaustive study. Further the scope of the enquiry has been restricted to only one district—South Arcot—and does not embrace the whole Presidency. Besides these limitations, it has to be pointed out that cer-

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tain fields of enquiry could not be undertaken with the hope of getting positive results. The assessment of the influence of the tax on prices, cost of living and wage level could not be touched upon for fear that in the disturbed state of the present world, any conclusions reached at may not represent the whole truth. The outbreak of the war in September just a month prior to the coming into force of the Act has brought about such changes, mostly due to psychological factors, in the field of prices etc. that it has been found to be almost an impossible task to discount its effect. But all the same the tendencies in these spheres have been studied and noted down; efforts have been made to show whether the tax is being uniformly shifted on all commodities to all consumers and at all times. The limitations set forth in the section dealing with this question must leave the impression that increase in prices because of this very small tax has been almost negligible, and felt only in a few cases. The other problems over which decisive conclusions could not be reached are the effects of the tax on business turnover and cost of administration of the tax. The difficulties theoretical and practical, experienced in these fields of enquiry, have been set forth in the sections dealing with them.

Other aspects of the tax have been examined in the pages of the book. After a preliminary history of the tax and a short description of its form in other countries, the Madras Act, in all its stages is considered. A few of the more important criticisms have been answered. A special section is devoted to study, whether any difficulty is experienced by merchants in account keeping, how far their accounts are intelligible and whether there are unsatisfactory reactions to the authorities prying into their accounts. The difficulties felt in the administration of the Act have also been considered.

The question of evasion of the tax has been studied in some detail. These sections are followed by one dealing with the incidence of the tax. When the work was undertaken the aim was merely to study the working of it in the South Arcot district. But what is said in these sections is to a great extent true for the whole Presidency.

The rest of the work is devoted, to a study of the effect of the tax on middlemen and business turnover of dealers including co-operative consumers' societies. It has also been examined whether any tendencies for disintegration of businesses have been noticeable. As far as South Arcot is concerned, the question of integration has not arisen.

Wherever possible, conclusions have been strengthened with figures; but the nature of the enquiry is such as not to present many occasions for resort to figures. In many cases where nothing more than some general tendencies have been noticeable, they have been stated as such.

We present this brochure to the public with the hope that it would succeed in giving some idea of the working of the Act, of the difficulties experienced, of the solutions that must be arrived at, and of the reaction of the merchants and the public to the measure during the short period of the working of the Act which we have studied.

The authors wish to acknowledge with great pleasure the munificence of the University which has enabled the publication of this volume. They also take this opportunity to thank everyone who has helped them in their work.

Section 2

SHORT HISTORY OF THE TAX

The Great War has brought about manifold changes in the world in all fields of activity. Politically, economically and socially also the post-war days have been far different from the pre-war days. Rapid changes have passed over the whole world within a short period of four years of rivalry and have left lasting impressions of their effect. The political changes have been so striking that they have attracted the attention of the public in various countries. Numerous books have been written on that subject. But the economic aspects of the changes, it must be admitted, have not been dealt with in great detail. The field of Public Finance is the least touched of all branches of Economics. If the War had affected anything very much it is finance; but it is somewhat strange that this question should be so meagrely studied.

Of the many changes that have come about in the field of Public Finance the greatest have occurred in the field of taxation. Besides the new attitude borne towards direct and indirect taxation, a change is noticeable in the types of taxes and principles employed in taxation. It need not be pointed out that a new importance has been given to the system of progressive taxation. The second outstanding change is to be seen in the introduction of a few thoroughly new taxes; certain old taxes, that have gone into disuse during the previous years have also been revived. The Sales tax of the post-war days is an important tax that comes under the latter category.

The Sales Tax is a very old tax but is certainly not the best tax. It is said to have been prevalent in Ancient Athens; in Egypt, under the Ptolemies and in Rome, under Augustus and other emperors. The rate of the tax in such times was ordinarily 10% *ad valorem* but even double the rate was common in exceptional circumstances.

In our own country, we find references to the use of the tax as early as the age of Mauryas. Kautilya, in his *Arthashastra*, refers to the trade tax in the following way:

"The amount of Vyaji or trade tax due on commodities sold by cubical measures is 1/16 of the quantity; that on commodities sold by weighing balance is 1/20 of the quantity and that on commodities sold in numbers is 1/11 of the whole."¹ Apart from this tax, a sales tax was col-

1. *Arthashastra*, Book II, Chapter 16.

lected from the highest bidder, whenever immovable property was sold in public auction. References to the sales tax are also found in the *Sukranutisara* and other works, but the rate of the tax seems to have been much less than that adopted by the Mauryas.

Taxes on the sale of commodities were very common and numerous in Europe during the Medieval times and the Spanish *Alcavala*² is the most noted of them all. It was reintroduced in Spain in 1342 and existed till the middle of the 19th century; it received the severest condemnation at the hands of many writers of the 18th century who even went to the length of saying that the "alcavala was one of the principal engines that contributed to the ruin of most of Spanish manufactures and trade." Adam Smith who endorses this view adds that the declension of Spanish agriculture also must be attributed to it.³ Though at the time of its introduction, it took the form of a 5% tax on all business turnover, it had a very chequered career, being subject to constant alterations in rate. But for the greater part of its existence it was collected at a 10% rate. The method of collection, the high rate of the tax and the nature of the exemptions, led to severe conflicts and opposition in the country and numerous attempts to modify the tax were often made. Finally in 1785, radical changes were introduced which reduced the alcavala to a "production tax." It did not flourish long in this new form as its fate was once and for all sealed by the decree of June 1843. A more moderate tax is said to have been prevalent from about the 15th century in Naples.

Though a few States of the American Union adopted the tax during the 19th century, it is only during the War and Post-War periods that the tax has been introduced by many important countries. Adopted by Germany in 1916, it has been copied soon by other needy countries. France followed Germany close on its heels and introduced it in the year 1920. It has however to be noted here that most of the countries that adopted it were not attracted by any special virtue that it possessed but were driven to it by their pressing needs. The huge expenditure caused by the war, the work of reconstruction and the payment of war pensions and allowances put such a heavy strain upon their financial resources that they were forced to fall back upon this mode of indirect taxation. The absence of any other equally productive tax is perhaps the chief cause for its wide prevalence to-day. To say that the rapid spread of the sales tax in the post-war days has often been due to the direct and indirect losses of the war

2. Refer Encyclopaedia of Social Sciences.

3. Adam Smith: *Wealth of Nations*, Book 5, Ch. II, Part II, Article IV.

ignores a more important factor which should not be lost sight of. If one studies the history of the Sales Tax it is easy to find out that the depression has made this tax widely popular with financiers. It was during the period of the depression that it spread widely. Many States of the United States of America passed some form of a sales tax between the years 1929-33. During these years when all other sources of revenue were falling off in yield and when the expenditure had to be maintained at the pre-depression level or even increased, the sales tax found an easy entry as a source of revenue in many countries. And by the end of 1937, "it was levied in 29 states of the United States, 3 Dominions of the British Commonwealth, 12 Countries of Europe and 6 Republics of South America."⁴

If its productivity, as it seems to be, had induced practically-minded financiers to introduce the tax in their countries, the sales tax must be said to have fulfilled their expectations to the full. For it occupies a very considerable portion of the tax receipts in many countries and is found to be quite as good as income tax and customs revenue and a serious rival of the latter. The truth of this statement will be well illustrated by the following table.⁵

Income, Customs and Sales Tax Revenue expressed as percentages.

Country.	Year.	Income-tax.	Customs Revenue.	Sales tax.	Total.
France	. 1934	19 5	15.1	17 5	52 1
Germany	.. 1932-33	9.4	22 3	19 1	50.8
Italy	. 1933-34	22.3	11 7	6 6	40 6
Hungary	.. 1932-33	10 6	4 8	12 9	28 3
Czechoslovakia	.. 1933	14 6	6.5	23 0	44 1
Austria	. 1934	19 4	16 0	21.2	56 6

The only important country that has not yet introduced the sales tax is Great Britain. Suggestions have been made even there to introduce it as a national tax "as a substitute for part of or as an addition to the existing taxation of income." The Colwyn Committee⁶ considered the question of the introduction of sales taxation in England but dismissed it "in somewhat cavalier terms and in a single paragraph in its report." "In Great Britain the tax has never been popular mainly because it is thought to be a burden on business, that it leads to a rise

4 Madras Legislative Assembly Debates, Official Report, Volume XII, No. 7, pp. 469.

5. G. F. Shirras. The Science of Public Finance, Vol II, p. 607.

6. Report of the Committee on National Debt and Taxation, p. 1031.

in prices and consequently to wage disturbances and that it is passed on to consumer, points which have not always been capable of proof.”⁷ Further the sales tax has no attraction for the Englishmen because the psychology of the English taxpayers is averse to indirect taxation. The success of the sales tax in France is attributed partly to the French dislike for direct taxation and liking for indirect taxation. This is an instance of how the psychology of the taxpayers plays a great part in the scheme of taxation of a country and is responsible for the success or failure of the tax. The tax has not been introduced in America as a federal source of revenue till now, but is prevalent in nearly 22 states and 2 cities.

Thus the sales tax has become a very popular measure with needy financiers and the history of the tax and its adoption in India very recently only illustrate the statement of Adam Smith, that, “there is no art, which one Government learns sooner of another, than that of drawing money from the pockets of the people.”

7. G. F. Shurras: *The Science of Public Finance*, Vol. II, p. 607.

Section 3

SALES TAX IN FOREIGN COUNTRIES

An idea of the tax as prevalent in foreign countries may help a proper understanding of the Madras Act and this section is hence devoted to a description of the tax—its form, yield and difficulties in administration—in foreign countries. A reading of these pages will convince the reader of how with low start in the beginning it has now become an important and indispensable source of revenue. The other, perhaps unique, quality of the tax, that of its undiminishing yield, even in the face of trade fluctuations, might be inferred.

The origin of the *German* turnover tax has to be found rather curiously in the low stamp tax adopted at the beginning of the War. The difficulties in the administration of this tax led to the search for a more easy source of revenue and in July 1918 it was superseded by the turnover tax of $\frac{1}{2}$ of one per cent. This $\frac{1}{2}\%$ tax was collected on the gross receipts from sales of goods and from services. Exemptions were granted in the case of exports from January 1, 1925; certain foodstuffs and raw materials were also excluded from taxation. Necessaries imported into the country were free from taxation. When the tax was introduced in Germany, it was feared that it would encourage integration of industries and thus place the small manufacturers at a disadvantage in comparison with giant concerns organised in vertical combination. To guard against such a tendency and to protect the small manufacturers the German Law of 1918, provided that transfers from one branch of a business to another should be taxed as if they occurred in separate businesses. But owing to difficulties in the way of fixing of prices of articles that were passed on from one stage of production to the other, this provision had to be dropped in the course of a year. Still, no tendency towards combination is noticeable in such a form that it can be said to be the result of the turnover tax. Middlemen were protected in Germany in much the same way as agents are under the Madras Act. Though difficulties were encountered in the first few months of the administration of this Act, they were soon got over and the tax won a very high place in the fiscal system of the country.

In Germany the rate of the tax varied from time to time. Pressed as the country was with a huge expenditure at that period, which did not shrink in volume even after the war, because of the work of reconstruction and the burden of reparations, frequent efforts to increase the

rate of this productive tax were made. From $\frac{1}{2}\%$ in 1918 it reached 2.5% within 6 years. The Dawes Committee condemned the high rate of the turnover tax which was then 2.5%. The feeling amongst the working class population that they were paying the greater part of the tax also grew in volume and strength. The result was that from October 1, 1924 there has been regular and successive reductions in the rate of the tax. The necessity to give some relief to the industries during a period of depression brought the question of the tax burden of the industries to the forefront and a reduction in the rate of the turnover tax was conceived as one of the steps leading to it. Accordingly in 1926 the tax was reduced from the low rate of 1% to $\frac{3}{4}$ of it. This reduction in the rate, it is remarked by some, has only tended to strengthen the hold of the tax in the German fiscal system. The following table¹ shows the quick rise and fall in the rate of the tax.

<i>Date.</i>	<i>Rate % of the Tax.</i>
July 16, 1918	.. .5
December 24, 1919	.. 1.5
April 8, 1922	.. 2.0
January 1, 1924	.. 2.5
October 1, 1924	.. 2.0
January 1, 1925	.. 1.5
October 1, 1925	.. 1.0
April 1, 1926	.. .75

The yield of the tax increased with every increase in the rate of the tax and before 1923-24 it occupied a very important place in the annual budget. Nearly $\frac{1}{4}$ of the total tax revenue of the Reich was secured from this source in 1923-24 and the following few years. The yield has fallen in later years, which may be attributed to a great extent to the reductions in the rate.

1. Taken from A. Comstock: *Taxation in Modern State*, Ch. 9, p. 124.
S.T.—2.

Statement showing yield of turnover tax in Germany.²

Year.	Yield of turnover tax.	Year.	Yield of turnover tax.
	Millions of Marks.		Millions of Marks.
1920-21	5,049	1928-29	1,000
1921-22	11,474	1929-30	1,013
1922-23	228,537	1930-31	996
1923-24	—	1931-32	994
1924-25	1,799	1932-33	1,354
1925-26	1,338	1933-34	1,516
1926-27	974	1934-35	1,872
1927-28	900	1935-36	2,020

"The reductions in turnover in 1930-31 and 1931-32 were almost compensated by increases in rates from 0.75% to 0.85% as from April 1930, (1.35% for retailers with a turnover exceeding RM 1 million) and 2% as from January 1932. The yield exceeded the level of former years considerably as from 1932-33"³ The yield of the turnover tax in various years as percentages of 1928-29 were as follows.

	1929/30	1930/31	1931/32	1932/33	1933/34	1934/35	1935/36
Turnover tax	101.3	99.6	99.4	135.4	151.6	187.3	202.0

The statement besides showing the remarkable increase in the yield of the tax with increases in rate, brings out the more important truth that the sales tax is not seriously affected by the depression.

"Like the other true turnover taxes as, e.g. those of France and Czechoslovakia, the law is founded upon the self-notification of liability and upon the statutory duty of keeping detailed records showing the transactions liable to the tax."⁴ With a view to checking evasion and raising the yield to budget expectations, strict regulations have been formulated in Germany for the proper maintenance of accounts of daily sales subject to taxation at different rates; "a stock book" and "a

2. (a) Taken from A. Comstock: *Taxation in Modern State*, Chapter IX, page 126.

(b) League of Nations: *Memorandum on Public Finance*, 1922-26, 1926-28 and 1928-35.

3. League of Nations: *Memorandum on Public Finance*. Economic Intelligence Service XII, Germany, p. 7.

4. A. Comstock: *Taxation in Modern State*.

tax book" with details as regards the sale of articles, the prices and date of sale are also to be maintained by the merchants. Returns are filed quarterly by the taxpayers along with advance payments on the basis of the returns. Final adjustments are done only at the end of each year.

In Germany, except for grumblings on the part of the manufacturers and merchants about the trouble of account-keeping, no serious difficulty arose from that quarter in the administration of the Act. There was no cause for dissatisfaction during a period of depreciating currency when they were able to pass on to the consumers not only the whole tax but even more. Much evasion existed in the earlier period, owing to the instability of the currency and lack of information regarding prices. This led the smaller merchants to escape the losses caused by sudden fluctuations in prices by omitting to note down sales and thus save a few thousand or hundred marks.

The turnover tax is not wholly absorbed by the Reich Government. When the Reich acquired financial hegemony by the 1919 constitution, it adopted the practice of sharing with the Lander and municipalities the yield from certain taxes. About 30% of the yield of the turnover tax with guaranteed minimum of 450 million marks, is set apart for the states and Communes by the Reich.

The Law of June 25, 1920 which came into force in July of that year introduced the turnover tax in *France*. The rate at first was 1.1% of which 1% was taken over to the National Treasury while the remaining one tenth was passed on to the local governments. As in Germany, the turnover tax was accompanied by a luxury tax of 10%. Exemptions were granted in the case of certain commodities; sales of bread were not taxed; agriculturists, members of liberal professions and employees were free from the operation of the Act. Barring these, the law was applicable to all other industrial and commercial transactions carried on within the country and the tax is levied on all gross sales and gross amounts of commission. The tax became very unpopular in 1921 chiefly owing to the proposal to double the turnover tax by the Financial Committee of the Chamber of Deputies; "The pent up irritation against the tax burst forth" and the tax was much condemned as differentiating unjustly between merchants and agriculturists. However, in March 1924, the rate of the tax was raised from 1.1% to 1.3% which was further increased subsequently "and adjusted to various types of business, so that 4 different rates of turnover tax, apart from taxes at the production stage for certain industries were in force until August 1926."⁵ The reforms suggested by the Committee of Experts were carried out in that month.

5. *Ibid.*, p. 131.

Multiplicity was avoided and the tax was unified and maintained at a rate of 2%. At this time the tax on exports also was abolished. In 1926, when the beginnings of another business depression were experienced, the French merchants feeling the pinch of the tax tried to condemn it, but this wave of opposition too did not last long, for with the return of prosperity the opposition slowly vanished.

Difficulties were experienced in the first few months of the working of the tax. Failures to submit returns at proper times were very common and the reason for this was said to be the complicated nature of the tax which was not easy for merchants to understand. Difficulties in the matter of verification of accounts were also serious, as the accounts maintained by the merchants under the code of commerce of Napoleon were often scanty. The dislike of the French merchants in showing the accounts for verification to the tax authorities impeded to a great extent the regular collection of taxes. Deficits in collection occupied a large percentage of the total demand.

It is generally said that much evasion was practised under this head; "The *Temps* claimed that 2/3 of the merchants evaded the turnover tax and that it was actually a tax on the remaining 1/3; that it was a tax only upon those who wished to pay."⁶

These difficulties were to an extent solved in 1922 by the introduction of the "forfait system" which only means a "lump sum payment." In the beginning the system was extended only to those taxpayers with a turnover of less than 48,000 Francs a year, who were allowed to make payments quarterly on the basis of turnover of the preceding year. The advantages of the system were so much appreciated by the merchants that they made numerous representations within a few months to extend the scheme further, to be applicable to bigger merchants. This demand of the bigger merchants was granted and the budget law of 1922 contained a provision to that effect.

In the beginning the difficulty of defining the commodities that should be classed as luxuries was prominent but with the passage of time and the gaining of experience the difficulty was got over. "The later history of the French turnover tax seems to bear out the old saying that any old tax is a good tax." Such other difficulties as were experienced in the course of the practical administration of the tax have been solved in the course of years and it may be said that in later years the tax had a smooth run.

6. *Ibid.*, p. 131.

However, the tax remained unpopular with the public and with the French merchants. Their dislike to disclose their account books to a third party, the distinction between the merchants and agriculturists and the inability of traders to shift the tax on to the consumers during periods of business depression, all combined to make the tax unwelcome to them. Many of these factors were merely transitory and it would not be far from the truth to say that the tax was received with a certain amount of indifference both by the merchants and traders in periods of prosperity and non-depression times.

The importance of the tax could be well appreciated when it is said that the tax came as a saviour while France was undergoing very serious fiscal difficulties. A look at the yield of the tax further illustrates an important characteristic of the sales tax, that it is possible of a steady yield even in the face of minor cyclical fluctuations. The following table would show that even when allowance has been made for the depreciation of the currency in post-war days, there has been a steady increase in yield. While in the year 1925 the tax was 15·8% of the tax revenue, it increased to 19·4% in the next year and in 1927 it was 20·8%.

Statement showing yield of turnover tax in France.⁷

Year.	Millions of Francs.	Year.	Millions of Francs.
1920	942	1928	9,295
1921	1,897	1929	9,865
1922	2,280	1930-31	9,226
1923	3,016	1931-32	8,873
1924	4,090	1932	6,478
1925	4,439	1933	6,897
1926	6,445	1934	6,386
1927	7,582	1935	7,247

The *Belgium* sales tax is a manufacturers' or wholesalers' tax and is known as a Transfer tax (*tax de transmission*). It was introduced by the law of August 28 of 1921 and became operative from roughly the middle of November of that year. The rate of the tax was 1% which was levied on all transaction "in merchandise and other movable property with the exception of retail sales" and was calculated on the total purchase price paid. The tax was levied only when an actual transfer of goods movable by their nature took place between living persons for a consideration within Belgium. These limitations at once exempt gifts and inheritances from the operation of the Act.

7. League of Nations: Memorandum on Public Finance 1922-26, 1926-28 and 1928-35.

The burden imposed on the chain stores have necessitated the exemption of the transfer of goods to a branch from the head office, though originally such transfers were treated as separate sales. The transactions of buying and selling conducted by a commission agent on behalf of a recognised principal are taxed only once, that is, at the time of the transfer from the vendor to the definitive purchaser.

The nature of exemptions granted under the Belgium law may be stated at some length as it reveals the essential principles to be followed when the tax is levied, and represents also the general tendency prevalent in the leading countries. The following transfers are exempted⁸:—

1. The sale of bread and flour for baking bread, potatoes, lard, margarine, frozen meat, eggs and other foodstuffs as specified by royal decree.
2. Public and auction sales of food in exchanges and markets.
3. Sales to the Government, the provinces, the departments and to public establishments.
4. Sales of water, gas and electricity.
5. Sales of not more than 30 Francs.
6. Sales of farm products and coal, directly from the producer to the consumer of not more than 150 Francs.
7. Sales by retailers direct to individuals for their personal use without regard to the amount of the sale.
8. Goods returned by a branch to a head office.
9. Transfer in execution of a contract of sale which was required to be publicly registered in Belgium.
10. Exportations, either direct or through brokers.
11. Importations (a) by the chief diplomatic representatives (b) personal baggage etc. (c) for reexportation (d) of metals from the colonies.

The Belgium Government in their endeavour to minimise the cost of administration of the tax have made the taxpayer himself the real tax collector. All computations of the tax and other incidental and necessary work have to be performed by the merchant himself. The tax is paid "by affixing double stamps (printed in two parts, detachable on a horizontal line) on the seller's invoice and on the purchaser's invoice half on each and by cancelling them. It is the duty of the seller to provide the stamps and to attend to the details of affixing and cancelling

8. Taken from A. Comstock: *Taxation in Modern State*, p. 138.

them." This system possesses the advantage of not injuring the susceptibilities of the merchants by forcing them to submit their accounts which are regarded as sacred secrets; the examination of the purchase and sales invoice books is not disliked by the merchants. However, it must be pointed out, that the onerous duties that it imposed on them were much resented and severe criticism and condemnation of the Act on this point were advanced in the earlier stages.

The consumer in Belgium was rather indifferent to the payment of the tax even when he knew that it was shifted to him. The reason is to be found perhaps in the fact that the burden of general taxation was not crushing Comstock observes, "The ultimate consumer was not pressed down to his centime in the matter of taxes, either direct or indirect, and in so far as he was conscious of the incidence of the transfer tax, he seemed to think that it was as good as any other tax".

The importance of the transfer tax of Belgium as a revenue producer is sometimes exaggerated. As regards yield the tax occupies only a place next to income tax. Unlike the Latin countries, Belgium does not rely upon indirect taxation to a great extent. While the receipts from income tax had consistently remained at about 25% of her revenue, the yield from transfer tax was only a fifth of her tax revenue.

	% of tax revenue.	
	1925	1926
	<hr/>	<hr/>
Income-tax	30.6	33.9
Sales Tax	19.7	21.1

The *Czechoslovakian* turnover tax leaves a lesson for India as it demonstrates how useful it is in a country with no sound financial practices and with depleted or almost exhausted resources and where the land tax and the income tax are undependable and objectionable. The new state of Czechoslovakia in the post-war days, unwilling to answer the needs of its Government by a resort to monetary tactics, found in the sales tax, a good source of revenue. The heavy or almost crushing burden of taxation during the previous regimes had already prepared the people to bear ungrudgingly any tax imposed on them, if it was not inconvenient, and this attitude of the people helped the Government in successfully introducing the measure, which everywhere else was received with the greatest opposition. A law providing for the levy of the sales tax passed in December 1919 came into operation in the beginning of

the next year. According to it a tax of 1% was imposed on the selling price of all transactions in commodities. Services also came within the field of taxation. Along with this tax, a luxury tax of 12% at the place of production and 10% at retail establishments came into force. In the beginning however, the tax was not popular with the public; the erratic price fluctuations due to sudden changes in the supply of commodities was wrongly ascribed to the turnover tax. But with the passage of time, as in other countries, the opposition subsided. Criticisms of other types either about the rate of levy or mode of collection were not prominent though some ill-feeling existed as to the differentiation shown between the agriculturists and the merchants. Some of the objectionable features which came to notice were removed in 1921 when the tax was doubled.

It would not be wrong to say that the potentialities of the tax were fully revealed in this country. Even within the first two years of its existence the tax occupied a very high rank amongst the various sources of the tax revenue, yielding nearly from 20 to 25% of it. In the second year it stood second among the taxes with only the coal tax above it. In 1922 the turnover tax beat the coal tax in yield and about 1929 there was none so highly productive as that in the state. Even the income tax yields only half as much.

The *Polish* turnover tax on gross sales was introduced in 1924. All businesses, operations and liberal professions with only certain exceptions came within the field of taxation. The general rate of the tax was 2% in 1926, but was only 1% on raw materials. Different rates were levied for transactions carried on by different classes of merchants in respect of certain goods; thus a 5% tax on wholesale transactions in materials for home agriculture and industry, 1% on retail trade in food and 5% on commissions were imposed. The difficulties caused by this variety of taxes and in obtaining accurate returns from those liable to pay the tax, made its administration pretty difficult in the beginning. The absence of trained and capable hands to deal with the situation intensified the trouble. The American Financial Committee which came to Poland in 1926 to help the Polish Government in carrying out financial reforms found in the tax "rather serious difficulties of administration." It did not favour the existence of the tax as it imposed unequal burden among the different branches of industry and among different businesses in the same industry and even recommended the final replacement of the turnover tax by other equally productive business taxes. In the meanwhile, it recommended some changes in the practices prevalent under the existing law. It advocated the cause of the very small concerns and suggested their exemption from taxation; it considered the licence tax to be a

better mode of taxing the smaller business men than the tax on sales; such a tax it claimed would cause only a meagre sacrifice to the Government but go a great deal in diminishing the cost of collection. The Commission also pointed out the advantages of uniformity in rate and the difficulties and defects of a multiplicity of rates. It fixed only $\frac{1}{2}\%$ as the maximum for a general uniform rate. The yield of the tax cannot be said to have been very high in Poland. But this can be accounted for in part by the bad times which Poland experienced when the tax was introduced.

*Statement showing yield of Turnover Tax in Poland.**

		Year.	Millions of Zlotics
Closed Accounts	..	1928-29	350
		1929-30	346
		1930-31	300
		1931-32	239
		1932-33	195
Provisional Results	..	1933-34	178
		1934-35	184
Estimates	..	1935-36	189

The turnover tax in *Austria* was levied at a 1% rate on deliveries of goods and services by industrial establishments from April 1923. A luxury tax of 12% also existed along with it. It was considered to be a good source of steady revenue and its utility was well recognised during a time when the receipts from other sources were falling or changing with times. The importance attached to it and the extra-ordinary yield of the tax will be inferred from the following observations of the Commissioner General for Austria.⁹

“The tax on commercial transactions is the most important of all sources of Federal revenue. Its yield was estimated at 450 milliards in the 1923 budget and has been raised to 1400 milliards for 1924. It should not be forgotten that the tax on commercial transactions was only actually put into force on April 1st (1923) and that until recently it has not been possible to collect it in full, the difficulty of collection being particularly marked during the first few months.”

The rate of the tax in 1924 was double the original rate and produced more than a fifth of the total revenue in the following years. Experts are

* League of Nations: Memorandum on Public Finance 1928-35: Economic Intelligence Service XXII, Poland.

9. Eleventh Report of the Commissioner-General of the League of Nations for Austria (Geneva 1924, pp. 40). Quoted by Comstock. *Taxation in Modern State*, 147-148.

of the opinion that it is not oppressive and that the cost of administration also is very low. The emergency tax on commodities turnover introduced as from August 1932 practically doubled the rates of the old tax ¹⁰

Another important European country that adopted the sales tax is *Hungary*. The tax was introduced in September 1921, much earlier than it was in the sister state of Austria. The original rate of the tax was only 1·5% imposed on all sales of goods and services with the usual exemptions. In 1924 the rate was 3% and the Financial Committee of the League of Nations which sat over the question of Financial Reconstruction of Hungary criticised the high rate of the existing tax and recommended its gradual reduction as times permitted. The rate was however reduced by 1% shortly after the recommendation which was soon reflected in its yield as is shown by its fall from 27% in 1924-25 to about 18% in the next two years.

Canada—Of the important Dominions of the British Empire, Canada is one that has adopted the sales tax and its experience is considered to furnish a “valuable example of the sales tax in a different type of industrial society” The passing of the sales tax law in 1920 in Canada must be attributed only to the financial stringency caused by the War. All sales by manufacturers to wholesalers or jobbers, which had not been exempted, came within the scope of the law, on which a tax of 1% was imposed. But as it was the intention of the Government that the “tax should rest with a weight of at least 2% on goods sold for consumption,” an additional tax of 1% was levied on sales by wholesalers or jobbers to retailers or consumers. It must be noted here that though provisions were made only for a 2% burden on commodities, the actual burden was much higher, perhaps as high as 8%. In the matter of exemptions Canada has strictly followed the principle of exempting of normal food consumption. Newspapers and a variety of such other commodities also have been excluded from taxation. It is sometimes said that it is this far-sighted policy of granting liberal exemptions that has made the tax permanent in the country. The only articles coming within the group of necessities that felt the force of the tax were the clothing items, but it cannot be said that the burden imposed this way was very heavy.

The original rates of 1% and 2% were raised by May of next year to 1·5% and 3% with an additional tax of 1% for importations by retailers and consumers. In May of 1922 the 1·5% tax was raised to 2·25% while direct sales by producers to consumers were taxed at 4·5%. Imports were taxed at 6%.

10. Memorandum on Public Finance · 1928-35, Austria III, p. 6.

The experience of the tax for four years had brought out in 1924 many of the defects and efforts were made in that year to reform the tax. It was found out that the cumulative tax in the case of certain commodities was not so harmless as it was thought to be, and hence according to the law which came into operation in January 1924 it was converted into a purely manufacturer's tax at 6%. Under this law, raw materials and goods to be manufactured were exempted and the principle that the sales tax should be levied on an article only once, which should be paid by the final producer was given effect to. With the financial recovery of the country a movement set in for the gradual reduction in the rate of the tax and for its final extinction. In some quarters there was a vigorous plea for the abolition of the high rated wholesaler's tax and its substitution by a low general turnover tax, at 1%. The recovery of the country made it possible to give effect to some of these suggestions. Cuts in the sales and income taxes were effected. It was reduced to 4% in 1927 and 3% in 1928. It was generally believed in 1928 that this policy of gradual reduction was only paving the way for the final elimination of the tax altogether.

It can be remarked, without any reservations, that in Canada the tax has revealed its power as a source of revenue. It has surpassed the income tax in yield and has contributed nearly 25% of the total governmental receipts. Though it thus became popular with the finance ministers and the Government, the merchants and manufacturers complained that it operated unequally on them and that it affected the exportations of certain manufacturers to the United States of America. Hence a well-known writer on modern taxation remarks "that in spite of the large yield, the Canadian tax had not yet fitted into the fiscal system with the case which had characterised some of the European Countries."

If any major country has refrained from resorting to the sales tax as a source of National revenue, it can be said that Great Britain is followed by the equally mighty *United States of America*. In America the question of levying the sales tax was a subject of much controversy shortly after the War and again about 1930-31. Strangely enough, the business interests of America, as represented by the National Association of Manufacturers, the National Association of Real Estate Boards and other organisations favoured the adoption of the sales tax, of course not without a motive; for they wished to be benefited by reductions in the special luxury taxes, in individual income taxes and corporation taxes. But opposition from the farm and the labour and other groups was sufficient enough to defeat attempts to introduce the tax both in 1921 and 1922. The sharp drop in the yield of the income tax due to business depression, brought the question again to the forefront in 1932, when the

Treasury recommended a series of taxes on selected articles, with a view to making up the deficit from income tax and balancing the budget. Protests from those businesses that were picked up for taxation were so formidable that the Ways and Means Committee turned its attention hopefully to the introduction of a sales tax of the Canadian type. They contemplated the levy of the tax on the sale of finished goods by manufacturers. But once again the opposition of the farm and labour interests, with their new allies the merchants, was so great that the attempt was as quickly abandoned as it was contemplated. "The House deserted its own committee and decisively rejected the tax. Since then, to the end of 1933, the sales tax has not been in the foreground as a possible source of Federal revenue."¹¹

States:—It cannot be said that there had been any widespread movement for sales tax till the beginning of the depression and its effects became visible upon the revenue receipts and expenditure policies of the State Governments; for though the first sales tax act was passed in 1921 by West Virginia it was not followed up by any state till 1929, when Georgia introduced the tax "Between the end of 1929 and the end of 1933, the introduction of the sales tax wrought a fundamental change in the revenue systems of several states"¹² Five states—Georgia, Kentucky, Mississippi, Pennsylvania, and West Virginia—had passed sales tax laws before 1933, while in 1933 alone eleven states adopted such measures for the first time. Two other states which tried to pass similar measures had them defeated at referenda, before collections started. This tremendous expansion of the tax can be ascribed with great truth, as being not so much due to the motive of tax reform as to the severe strain upon the fiscal machinery caused by the depression and the resulting collapse of state revenues with a simultaneously increasing expenditure, partly due to a more liberal policy of unemployment relief and partly due to the starting of more schools. The great fall in local revenues which reduced their capacities to carry out some of the duties assigned to them as that relating to education etc., put a further burden on the states to meet which they could not but resort to new tax resources. Nearly half the number of states and the cities of New York and New Orleans have adopted the sales tax at more or less uniform rates on sales of most articles and services. On January 1, 1937, it was prevalent in 22 states and the two cities mentioned above. Most of these states gave exemptions for such

11 Sales Tax in the American States: R. M. Haig and C. Shoup, p. 7.

12 For principal provisions of recent state sales tax laws, general and administrative provisions, exemptions and dispositions of revenue, etc. see "Sales Taxes in American States," R. M. Haig and C. Shoup.

important items like foodstuffs and adopted only retail sales taxes. The fear that manufacturing and wholesaling concerns might be tempted to migrate to neighbouring states where there was no tax or only a lighter tax, weighed much with the state authorities in fixing the tax at one point only, namely, retail sales. Naturally enough it was only the retailers who opposed the tax tooth and nail at the time of its introduction in every state, their campaign of opposition, it is said, had assumed a nation-wide aspect. But however vigorous and organised their opposition had been, it had always been a losing one. The proponents consisted of a combination in many cases, almost imperfect, of members of farm groups, teachers' organisations, urban real estate associations, public service corporations and governor and Governmental authorities. The limitations on the scope of the tax base resulted in raising the rate of the tax. It can be said that generally the state sales taxes range in the majority of cases between 2% and 3%. It may be noted here that one state Kentucky tried a new experiment, by introducing the principle of progression in 1930. "The rates began at 1/20 of 1% on gross sales not exceeding \$ 400,000 and rose to 1% of the excess of sales over \$ 1,000,000." The Supreme Court however declared this law unconstitutional in 1935 and the distinction between a large volume of sales and a small volume was held not to be a reasonable basis to justify the imposition of a progressive sales tax.¹³

More than nearly 1/3 of the revenues is secured from this tax by states adopting rates ranging between 2% and 3%. The total income for all the State Governments from this source, comes to about \$ 350,000,000, about 1/7 of all state tax revenue, to which \$ 50,000,000 have to be added if the total tax receipts from this tax for all states and local units is to be gathered. Thus \$ 400,000,000 is the aggregate income for all states and the 2 cities of New York and New Orleans from this tax, and thus comes to about 6% of the total state and local revenues. It is estimated that the yield of the sales tax occupies 1/30 of all the tax revenues of all governmental units in the country—federal, state and local. It is expected, that but for the unfavourable political reactions to which the tax had been lately subjected, the income of \$ 400,000,000 "might be doubled or trebled."¹⁴

Not all the revenues from this source are utilised by the State Governments themselves. They share the revenues from this tax with the local units. It has been found that in a period when the tendency to share taxes has been slightly decreasing and grants-in-aid

13. Facing the Tax Problem. 20th Cent. Fund p. 183.

14. Facing the Tax Problem: 20th Cent. Fund p. 93.

have been coming into vogue, the local units have been getting increasing shares from sales tax revenues. From 1·3% in 1934 it has increased to 3·3% in 1935 and 18·4% in 1936. Represented in thousands of dollars it comes to 3552,9686 and 79025 in 1934, '35 and '36 respectively.

The tax is separately charged from the consumers in many states. In 15 out of the 22 states and 2 cities the laws provide to that effect. The same practice is followed up by the retailers in other states with the hope that it would by keeping the consumers aware of the fact that they are paying the tax, facilitate the organisation of severe opposition and help its repeal ultimately. To help them in accomplishing this deed, the retailers in America have adopted various tactics.¹⁵ But this practice should not lead one to the conclusion that the incidence of the tax rests uniformly on the consumers in America. The authors of a recent book while dealing with this question warn readers against coming to such a hasty conclusion. They observe, "Separate charging of the tax, so common under retail sales taxes, is no guarantee that the tax is being shifted. A retailer might sell an article at \$1·00 for instance, if there were no sales tax, while under a 2% sales tax, he sells it at 0·98 cents plus 2 cents tax".

In many of the states adopting the tax, the revenues from it are ear-marked for education. Though it seems there is no rhyme or reason in this practice, it is believed to be 'a political device designed to gain support by confusing the issues at stake.'¹⁶

The administration of the sales tax is being carried on in the American States by special administrative divisions created for that purpose. In some states nearly 2 to 4% of the sales tax revenue is allowed to be spent over the administration, while in some other states "such sums as are necessary" are allowed to be drawn to meet the administrative costs. The authorities concerned with the administration of the tax are invested with wide powers by special statutory enactments. A feature of the administration of the tax which has got a significance and a lesson that should be grasped by every country introducing the tax for the first time deserves to be noted. "There has been a widespread tendency to be lenient with taxpayers for the first few months, but this arises not from any indifference but rather from a studied desire to avoid friction which might imperil future collections and perhaps the very existence of the tax".¹⁷ The violation of this idea

15. See section on Shifting and Incidence of Taxation, p. 73.

16. Facing the Tax Problem, p. 552-553

17. Sales Tax in American States, R. M. Haig and Carl Shoup, p. 27.

by some of the narrow minded administrators has led in many cases to disastrous results.

However, it cannot be said that the tax is popular in the states. The opinions of teachers of Public Finance, which is decidedly against it, in the enquiry conducted by the New York State Tax Commission 1936, brings out in a striking way, the attitude of the learned section of society. "Out of 127 professors, responding to the questions asked about the sales tax, the following were the replies:¹⁸

General Retail Sales Tax (Local)	. No. 119
Producers' Sales Tax (Local)	.. No. 119
Tobacco Tax	.. Yes. 121.
Such luxury taxes as can be practically administered	Yes. 116.

It is expected that though the sales taxes which have been passed are temporary and mostly emergency measures and in eight states scheduled to expire in a year or two, it will remain for several years to come in states that have adopted it. For with the passage of time, the opposition from the bigger merchants will wane, while the smaller retailers can by themselves offer no effective opposition.

A study of the tax in foreign countries will be of no avail, if an attempt is not made to draw out the general tendencies of the tax common to all the countries, that have imposed it. Besides the intrinsic merit involved in that piece of work, such an enquiry will facilitate the comparison of the measure under study, viz., the Madras General Sales Tax Act, with those of other countries. Necessity for great revenue and inability to draw it from the existing sources of taxation or from sources other than the sales tax have been in general the main causes, for its adoption by many countries. In almost all these countries, while the tax was levied for the first time, it was collected at a very low rate. The following table, summarising the statements made in the previous pages, will present the point clearly.

Country		Rate % of the tax.
Germany	..	.5
France	..	1.1
Belgium (Manufacturers' tax)	..	1
Czechoslovakia	..	1
Austria	.	1
Hungary	..	1.5
Canada	..	1
Madras	..	.5

18. Taken from: Facing the Tax Problem, p. 580.

It is unnecessary to point out that our province too has followed the practice of the other countries adopting turnover taxes, by starting with a low rate of tax.

Taxes on services are very common in continental countries. Luxuries also come under the field of taxation; and sales taxes on luxuries extending to more than 10% are common in Europe. But these rates have been constantly changing according to the needs of the state. Over the question of exemptions also a general tendency is noticeable. Many of the countries that have adopted the sales taxes have exempted the food articles, the necessities of life, from taxation. Exports, the sale of prime necessities, government enterprise and transactions, and to a certain extent, machinery also are generally not taxed. Here too the Madras General Sales Tax Act compares favourably with the general tendencies noticed in other countries. A rebate of half the tax is granted for exports of manufactured articles for delivery outside the province under our Provincial Act. Government transactions, as well as certain transactions of local bodies¹⁹ are exempt from taxation under this Act. But it is only in the case of exemption of food articles and necessities of life that our province, rather strangely enough, has not shown any concession. Even when the point was pressed very much, the Government maintained an unfavourable attitude. It is here that the Madras Act has deviated totally from the general policy followed in other countries. Madras Province has not yet copied in full, the practice of imposing luxury taxes on the model of foreign countries, though it cannot be said that it has not proceeded in that direction. If the Electricity, Tobacco, Motor Spirit and Entertainment taxes can be regarded as taxes on luxuries, it becomes evident that our province also has embraced the general principle of levying taxes on luxuries along with turnover tax. A clear point of difference between the Madras General Sales Tax Act and those of foreign countries is, that while some of them tax service also, the Madras measure excludes it. The reason for this divergence is not far to seek; for it is to be found in the Constitution Act itself.

As regards the administration of the tax and other allied questions relating to it, it can be inferred from the foregoing pages that the administration is found to be difficult only in the first few months; later on when the opposition to the measure dies out and some time elapses, the tax becomes an old tax; the administrative work also gets into a routine.

19. The sale of rubbish by municipalities is exempted. It is interesting to note here that the Srirangam Municipality raised the question whether municipalities selling rubbish should be taxed.

It might be regarded as hazarding a guess if it is said that the Madras General Sales Tax also will have a smooth run in course of time. But from the working of the Act in the first 6 months such a remark can be safely made.

These are some of the points on which a comparison between the Madras General Sales Tax and the turnover taxes in other countries can be made. But it is not good to carry comparisons too far. While comparing any two countries in any field of the enquiry care must be always taken to understand the special peculiar features of the country that is being compared. A condemnation of one country on the basis that it has not followed *in toto* the principles and practices of other countries is unwise. Every country should adopt a principle and follow a practice sanctioned by its conditions. If this truth is remembered while comparing the Madras General Sales Tax with the turnover taxes of other countries, there is no ground to condemn the measure for not following practices of other lands. In the light of the above truth, the refusal by the Government to exempt exports as such from taxation²⁰ and the half-hearted policy of taxing luxuries followed by the government can well be understood as being sanctioned by the special conditions of the province.

20. See Section 6.
S.T.—4.

Section 4

SALES TAX AND THE GOVERNMENT OF INDIA ACT 1935

When the question of Provincial Finance was taken up along with the question of constitutional changes, the arduous task of setting apart a number of tax heads for the provinces to carry on their autonomous regimes had to be faced. The result of all discussions that followed was the formulation of schedule 7, List II of the Government of India Act of 1935, in which the tax heads of the provinces are enumerated. The Sales Tax (entry 48) is an item in that list and the clause relating to it refers to it as a tax "On the sale of goods and on advertisements."

The assignment of the sales tax to the province by the centre has been taken advantage of by many persons to criticise the actions of both the Central and Provincial Governments, on the assumption that the sales tax has been rejected as being unsuited to India by the Taxation Enquiry Committee. The Government of India has often been represented as an unscrupulous mother giving an unwanted thing to its child, while the action of the Province imposing it is criticised as that of a naughty child attempting to do a thing that has been declared to be harmful. But the baselessness of such criticisms becomes evident if one goes through the relevant pages of the Taxation Enquiry Committee Report. Neither the Central Government nor the Provinces need be chastised for their actions. The Taxation Enquiry Committee cannot be said to have made any detailed investigation of the applicability of the tax to India either as a Provincial or Central measure. It has considered only the case of a retail sales tax, as an alternative to the Octroi in connection with Local taxation; and to condemn the sales tax as a whole on the basis of the meagre attention paid to the tax by the Committee would not be wise. The sales tax, as has been pointed out earlier, is employed by many countries and states in all stages of development; and because it was felt that India would not be committing a folly, the tax has been assigned to the province. If India adopts the tax either as a Central or as a Provincial measure, it is only to be taken as an indication of the movement of India along right lines in the field of Public Finance. She is only sailing along the current that has been flowing in the post-war era.

The power to levy "taxes on the sale of goods and advertisements" conferred on the provinces by the constitution, it must be admitted, is very limited in scope. It is only a tax on the sale of goods; taxes

on advertisements are allowed; but there are no references to services. It need not be repeated here that taxes on services too are common in modern states. In many states a tax on the sales of goods and services is levied. But in India, the provinces cannot attempt such a thing, for the mere reason that they are not endowed with such powers. In so far as the tax is restricted to the sale of goods, it must be admitted, that the scope of the tax has been to a considerable extent circumscribed.

With the commencement of working of Provincial Autonomy, the question of expanding the resources of the various provinces to enable the party in power to give effect to its policy—a feature noticeable in many countries of Europe during recent years¹—became acute. In many provinces rapid retrenchment policies were followed by efforts to raise greater revenues from certain of the existing sources of revenue. But the abolition of excise revenue in some provinces, and the elaborate scheme of public expenditure in others, made it impossible to bridge the gulf between income and expenditure. Hence hasty searches were made to find out new sources of taxation and the provision for a “tax on the sale of goods and on advertisements” in the provincial list of the Constitution Act was attractive. Many provincial governments have embraced it with eagerness.

The C. P. and Berar Government were perhaps the first to put the provision into use. They passed an Act allowing for a tax on the retail sales of motor spirit and lubricants. The validity of the Act was soon questioned. The Government of India held that the above action of the provincial governments was an ‘intrusion upon a field of taxation reserved by the Act exclusively for the Federal Legislature’ They contended that the power to levy excise duties, which was exclusively left to them, extended up to the sale of the article, that is, that it may be imposed upon home-produced goods, at any stage, from production to consumption. They further pointed out that the taxes on the sale of commodities are simply taxes on commodities and the provincial levy of a retail sales tax which may fall on motor spirit and lubricants of Indian origin, is a duty of excise, within entry (45) and therefore to that extent *ultra vires* the powers of the provincial legislature. It was argued further that “even if the impugned Act² were otherwise within the competence of the Provincial Legislature, it was nevertheless invalid, because the effect of the *non-obstante* clause in S. 100 (1), and *a fortiori* of that clause read with the opening words of S. 100 (3), is to

1 Refer Encyclopaedia Britannica 1939 Year Book, Article on ‘Taxation’ by Sir Josiah Stamp.

2. Refers to the Provincial Act.

make the federal power prevail if federal and provincial legislative powers overlap." It was declared that while the provinces had power to levy the taxes "commonly known as turnover taxes, which under that name or under the name of sales taxes have since the war proved so successful a fiscal expedient in many countries" they could not without encroaching upon their powers embark on a policy of selective taxation.

It was contended on behalf of the Provincial Government that "an excise duty was a tax on production or manufacture only and that it could not therefore be levied at any later stage." The provinces hence would not give such a wide connotation for the term "excise," nor would they admit of the power of the Federal Government to levy excises extending up to the stage of consumption of goods. The points involved in the question were highly complicated and His Excellency, the Viceroy, decided to have the question settled by the Federal Court of India. Accordingly the question was referred to the Federal Court. After hearing the arguments of the Government of India, and the Province of C. P. and Berar, and other provinces which were invited to have their say as it was a matter which concerned all of them, the Court decided in favour of the provinces. The Court stuck to the principle that "a general power ought not to be so construed as to make a nullity of a particular power conferred by the same Act and operating in the same field, when by reading the former in a more restricted sense effect can be given to the latter in its ordinary and natural meaning." It remarked that "if the two legislative powers are read in the manner suggested above, there will be no overlapping between them." It clearly laid out that "the central Legislature will have the power to impose duties on excisable articles before they became part of the general stock of the Province, that is to say, at the stage of manufacture or production, and the Provincial legislature an exclusive power to impose a tax on sales thereafter." After pointing out, by way of strengthening its conclusions, that neither precedence (i.e. excise duties levied under the 1919 Constitution Act) nor the existing excises lend support to the contention of the Government of India, it has declared that the Central Provinces and Berar Sales of Motor Spirit and Lubricants Taxation Act, 1938 is not *ultra vires* the Legislature of the Central Provinces and Berar.

This decision of the Federal Court is of great importance as it lays down some important principles on which this provision regarding Sales Tax should be interpreted. It gives out in clear words the meaning of the provision "taxes on the sale of goods" and it has clarified the position of the Provinces regarding the levy of selective sales taxes.³ This

³ In view of the importance of the judgment, extracts of the same are appended.

decision of the question in favour of the provinces by the Supreme Court in India, has opened a wide field of taxation for them. Other provinces including Madras have enacted similar measures with regard to the same commodities. But it is not the intention here to study all those taxes, that may be called selective sales taxes. Our attention will be confined here to only the Madras General Sales Tax Act.

Section 5

LEGISLATIVE HISTORY OF THE MADRAS MEASURE

The Madras Government was perhaps the first to introduce a general sales tax; no doubt the Bombay Government also proceeded that way but there is much difference between the two measures, the enunciation of which may be deferred to a later section.

The Madras Sales Tax Bill was first published in the *Fort St. George Gazette* of February 28, 1939 for public information. Between the draft bill and the bill that was finally passed by the Legislature there is much difference. A study of the bill in all its 3 stages—as it originally stood, as it came out of the Select Committee, and as it was finally passed by the Legislature—may be highly instructive.

As originally published the bill was a short one of sixteen clauses giving very wide powers to the executive authorities. A notable feature of the bill was the absence of any exemptions. The tax was levied on the turnover of all goods “including all materials, commodities and articles other than those excluded from the scope of the act by a notification by the Provincial Government in the Official Gazette.” It was this all inclusive nature of the bill that raised a loud hue and cry and which made the Select Committee include far-reaching exemptions. The rate of levy consisted of 2 slabs and a $\frac{1}{2}\%$ rate of tax on turnover exceeding Rs. 40,000. Every dealer with a turnover of less than Rs. 10,000 was exempted while the following rates were charged for others:—

	Rs.
(a) If the estimated turnover in the previous year exceeded Rs. 10,000 but did not exceed Rs. 20,000 ..	75
(b) If such turnover exceeded Rs. 20,000 but did not exceed Rs. 40,000 .	150
(c) If such turnover exceeded Rs. 40,000	One half per cent of the amount of such turnover.

Much opposition was raised against this form of the bill. The whole attack converged round the rates of assessment and the complete absence of exemptions; criticisms were very vehement; protest meetings were held in all parts of the Presidency; deputations were sent which waited upon the Government; the press too to a certain extent carried a tearing

and raging campaign against the measure ; hartals were observed ; influential men denounced the measure through the press and the platform ; in the legislature also when the bill was taken up for the first reading the Government was severely condemned by the Opposition.

The outcome of all this was the appointment of a Select Committee consisting of 15 members of the House including the Chairman, to consider the Madras Sales Tax Bill and report on it. The Committee sat over the question for nearly ten days and finally submitted a report to the House on the 22nd April. It is necessary to mention here that though the Report was to all appearance a unanimous one, yet in reality it was otherwise, for four important members opposed the measure on two grounds :—

- (1) "They are against a cumulative turnover tax and favour taxation at one point only ; and
- (2) they are against the imposition of any rate of taxation above one-eighth per cent."¹

However, when the bill was taken up by the Select Committee for consideration, very important and far reaching changes were introduced. The work of the Select Committee may be considered under a few heads :—

Changes in definition :—A few changes of great significance were introduced with regard to the definitions of 'dealers,' 'goods' and 'turn-over' the important aspects of which will be referred to here. As the Committee was of the opinion that in certain trades dealing with articles of export, it may be more appropriate to levy the tax imposed by this Bill on the persons to whom the sales are made than on the persons by whom the sales are made, they have thought it desirable to amend the definition of 'dealer' as 'any person who carries on the business of buying or selling goods in the course of trade or commerce therein'² Under the new definition of 'goods', stocks and shares and securities are exempted Following the definition of 'goods' in the Sale of Goods Act, they have also excluded actionable claims from the scope of the expression.³ The power of exempting articles from the scope of the act that was vested originally in the hands of executive authorities by means of a notification by the Provincial Government in the Official Gazette has been taken away under the new definition of 'goods', as the Committee felt that exemption of any selected goods

1 Select Committee Report, 8.

2 *Ibid* cl. 2 Definition of 'dealer'.

3. *Ibid* cl. 2 Definition of 'goods.'

from the scope of the bill should be provided for by express enactment in the bill itself and not by means of a notification issued by the Executive Government.⁴ Apart from modifying the definition of 'turnover' to suit the new definition of dealer, other changes have also been made, which include important concessions for merchants. Any cash or other discount on the price allowed in respect of any sale and any amount refunded in respect of articles returned by customers are not included in the turnover. Accommodation sales, that is, sales made simply to oblige the customers by taking goods from another dealer for immediate disposal, have also been excluded by freeing the former dealer from paying the tax.

Rate of Assessment:—It is in clause 3 of the bill that the Select Committee has effected the most important changes. As has been remarked earlier, the bill as it originally stood contained 2 slabs with fixed rates and only turnover exceeding Rs. 40,000 was subject to $\frac{1}{2}$ percent rate. The Select Committee considering 2 slabs of fixed taxation as unnecessary decided that the percentage basis should apply to all cases where the turnover in a year exceeds Rs. 20,000.⁵ The bill was amended thus with one slab and all those dealers whose turnover is between Rs. 10,000 and 20,000 come under it. On this the amount of the tax has been reduced from Rs. 75 as it originally stood, to Rs. 5 per mensem. The original rate of $\frac{1}{2}\%$ has been retained by the Committee and is operative on turnover exceeding Rs. 20,000.

Question of Exemptions:—Nothing had absorbed the attention of the Select Committee so much as the question of exemptions. What commodities are to be exempted and how are they to be exempted were the chief problems that confronted them. As had been mentioned earlier, the greatest objections as soon as the bill was published were directed to this section of the bill and hence the Select Committee was faced with a very arduous task. The claims of export trade, of necessities, of particular trades like hides and skins, bullion, etc., were all put before the Committee. After going through the whole problem, the Committee came to the conclusion that exemptions in certain cases may be granted and decided upon adopting different methods in different cases. Total exemption from taxation, taxation at one selected point only and concessions in the rate of assessment in the form of a rebate were the three courses decided upon. Under the first head came 'the sales of bullion and specie, of cotton, of cotton yarn and of any cloth

4 Select Committee Report cl. 2. Definition of 'goods.'

5. Select Committee Report cl. 3

woven on handlooms and sold by persons dealing exclusively in such cloth.' In the case of export trade, after considering the alternative methods of treatment, they decided not to exempt goods sold for export as such but allowed a rebate of $\frac{1}{2}$ the tax on the sale of finished articles of industrial manufacture for delivery outside the Province. With regard to hides and skins and tanned goods, the Committee adopted the method of taxing at one point only.⁶ Apart from these exemptions the Committee found the necessity for exempting from taxation under this Act those commodities that were subject to separate levies under special enactments. Under this heading come all those items mentioned in clause 4 of the Act. In addition to these express provisions for exemptions made by the Select Committee, certain other concessions were also granted under the new definition of the term "turnover", which have been referred to previously. On the whole, considering the work of the Select Committee over this question, one must warmly congratulate them for the great consideration they paid to the various representations made at that time.

Some minor changes:—Apart from such alterations such as the dropping of a few clauses dealing with the comparatively minor question of the officers by whom the tax should in different classes of cases be assessed and the various authorities to whom appeals could be preferred in respect of the assessment of the tax no important change has been made in the bill. A new clause (13) has been included by the Select Committee making it obligatory upon all except very petty dealers carrying on business in any class of goods to show in the accounts maintained by them the value of the goods bought and sold, failing which, they will be required to maintain accounts in such form as may be prescribed in this behalf by the Government. Under the section dealing with penalties the Select Committee has taken care to see that no person is punished for unconscious omissions and mistakes and has made it clear that only wanton or 'wilful' actions should be punished by inserting the term 'wilful' at the proper places.

Though the changes effected by the Select Committee satisfied a great part of the general public, many were still dissatisfied with them and clamoured for more. The same kind of opposition as was indulged in previously was repeated and the Opposition in the Legislatures grew more intense. A large number of amendments, greatly modifying the principle as well as the form of the bill, were tabled when the Bill was taken up for consideration clause by clause. But the Government

6. For details ref. to Madras General Sales Tax (Turnover and Assessment), Rules 15 and 16.

S.T.—5.

eager to stand by the principle and the form evolved by the Select Committee found itself unable to accept the numerous modifications that were brought forward. In a word, the bill as it was finally passed retained *in toto* the decisions of the Select Committee and beyond some verbal alterations nothing new was accomplished in the houses of the legislature.

Under the Act in the present form, the tax is levied in case of the various assesseees only on net turnover after making the necessary deductions from the gross turnover.⁷ It may be interesting to note here that in addition to the concessions granted to merchants under the Act, the rules provide for the deduction from the gross turnover of any merchant the duties paid by him in respect of salt to the Central Government.⁸ Except in the case of commodities in Rule 4 the tax is levied only on the *sales* of commodities. The special provision in these cases under Rule 4 has been made with a view to bring the foreign buyers of these commodities within the purview of the Act.

The rules provide for two methods of assessment, except in the case of licensed dealers in hides and skins for whom special provisions are made. One method is open only to dealers with a turnover of over Rs. 20,000. Under this method, the dealer is taxed on his actual monthly turnover, which he is expected to submit in respect of each month, before the last day of the next month, in special forms provided for that purpose. The other method consists in asking the merchant to furnish in the form prescribed at the beginning of every year his turnover during the previous year or an estimate of his business during the first twelve months if it is newly started, on the basis of which he is provisionally assessed in the current year. The total tax calculated on that basis is divided by 12 and the monthly instalment of tax payable is fixed, which is to be paid by the merchant in respect of each month before the 10th of the succeeding month. At the end of the year, when the final check is made and the actual net turnover for the year is calculated, the tax is collected on the basis of the actual turnover and any excess found to have been collected is refunded while any amount due is forthwith collected.

The rate of the tax has been subsequently reduced with effect from 1940.⁹

7 See Madras General Sales Tax, (Turnover and Assessment) Rules, No. 5

8 *Ibid* Rule No 5 (1).

9. See appendix I.

Section 6

CRITICISMS CONSIDERED

No new measure of taxation is ever received by the tax payers without any comment and it is no wonder that the sales tax of our Province was subject to severe condemnation. Politicians, merchants and legislators lost no time in pointing out its defects; the principle as well as the form of the tax was much criticised.

That the tax was unsuited to India and more so to our Province was a chief point generally raised by all. Somehow or other the sales tax came to be associated in the minds of many with only industrially advanced states. Perhaps the reason is to be found in the imposition of the tax by such countries as Germany, America and Belgium. And the conception of India as a predominantly agricultural country stood in the way of reconciling the sales tax with our country. The more acute and argumentative among this class of critics went still further and exclaimed that the sales tax, in as much as it would raise the cost of production of manufactured articles, would in future handicap our country to a very great extent in this competitive world. Thus it was pointed out that the tax stood in the way of the future development of the country to an industrial stage.

It is difficult to assess how far these contentions are correct. First it can be pointed out that the sales tax is not levied in highly industrialised countries only. Even agricultural countries like Hungary, Poland and the Phillipines have levied the tax. If the tax has been successfully tried in these countries where is the harm in India or any Province in it taking a lesson from them?

Secondly, the latter part of the criticism that the tax would stand in the way of the future industrial development of the country, pre-supposes many things which it is not proper for one to take for granted. If it is said that the new tax would increase the cost of production of articles, it cannot be taken as axiomatic. It will have to be examined whether such a tendency would inevitably follow the levy of the tax and whether such a tendency cannot be avoided. The view that the cost need not necessarily increase but may even fall is also held by some economists. Hence before saying anything definite about the matter it has to be analysed in what ways the increase in cost of production would be brought about and in what other ways could decrease in cost of production be effected.

Increase in cost might be caused by higher prices paid for raw materials and higher wages paid to workers in order to meet the higher cost of living caused by the tax.* It can confidently be said that the tax is not such a heavy one, as to raise the working class cost of living to any appreciable extent as to make them demand higher wages. Wage rise on this account is hence highly improbable. As for the higher cost caused by higher prices paid to raw materials, the question must be studied in relation to the incidence of the tax. It has been found in the course of this practical survey that illiteracy, helplessness, heavy demand for money for revenue and other purposes and lack of combination amongst the producers and lastly the absence of any adequate marketing facilities on a wide scale have all helped the purchasers of these raw materials in shifting the tax on to the heads of the producers and making them bear the incidence of it. Increase in cost of production from this direction also seems improbable. Granting that the prevalent tendency is reversed and it is made probable, one must consider the point raised by a German Economist that the proportion of raw material utilised in the manufactured product is not always constant, that there is always an effort made to lessen the use of the quantity of the costlier material without damage to quality and that these things are being facilitated by modern science. If the tax increases the cost of raw materials, could not this tendency be counteracted by a more economical use of that material? This is a delicate question to be answered straight. The whole thing depends upon the capacity of the organising head of the industry and various other factors. Thus after weighing the arguments in support of and against the criticism, one feels that any dogmatic assertion is highly risky. It would be safe and scientific to observe that while there are probabilities for an increase in the cost of production of manufactured articles in future on account of this tax, there are great possibilities to maintain the *status quo* or even for lessening the cost. Thus while doubt prevails over this issue, much value could not be attached to the assertion that the future industrial progress of India or of our province is barred by the imposition of sales taxes.

There is another class of critics who oppose the measure as regards its form. Almost every clause of the bill is condemned by such critics. Only the more important of their points will be taken here for examination.

The cumulative character of the tax has been generally condemned. As many of the commodities including the necessities change hands

* Shirras in his Science of Public Finance Vol. II p. 610 remarks that this is a point amongst others which has not always been capable of proof.

many times, in many cases as much as 4 times, it is feared that the prices of commodities would go up by at least 3 or 4 times the tax. Such a rise in price would greatly affect the various stratas of society, especially the lower ones.

This is a legitimate fear and if prices do rise as per our expectation, the tax would only be doing great harm to society. A practical study of the question of incidence has brought out the fact that certain retail dealers refrain from shifting the tax on the heads of consumers, while in the case of many others, though it is their intention to shift the tax, the low unit value of the commodity, small transactions of low value, the lack of combination amongst merchants and various other factors have prevented them from successfully accomplishing their aim. It is only in certain commodities that shifting is rendered possible: whereas in other cases they have to bear the tax. Under such circumstances, to assume that prices would rise uniformly in all cases would amount to shutting one's eyes to the realities.

Certain advantages that the cumulative tax possesses over other forms of sales taxes may be stated here. A cumulative tax is said to be broadbased, and the rate of the tax also may not be very high. But, on the other hand, if a one-point tax is adopted, as the base of taxation is restricted, the rate must be very high which may not be agreeable to public taste. The cumulative tax has the further advantage that in certain places the tax may 'stick on,' without being passed on to the consumers; a highly rated one-point tax is not likely to have the same tendency. These arguments have not been advanced to justify the cumulative tax but are only intended to bring out the merits of this form of the tax over other forms and to show that it is not capable of causing so much harm to society as it is feared it would cause.

But the most important of all these criticisms is the one directed against the inclusion of exports within the orbit of taxation under this Act. It is argued that this inclusion goes against the practice of many European countries which have imposed the tax. But to follow the practices of foreign countries, without considering the question in relation to the peculiar circumstances of our country is not a desirable one. There is much difference between the conditions prevailing in our country and those of other European countries. The former is mainly an agricultural country exporting raw materials while the latter are industrial countries exporting manufactured articles. Exemption of exports from taxation in such cases is justified, as it is the policy of those Governments

to keep the cost of the manufactured articles low. While it is the endeavour of our Central government to conserve the raw materials and slowly industrialise the country, the exemption of exports of raw materials from the General Sales Tax Act by a Provincial Government would run counter to that policy. It is such a collision of policies that must be avoided at any cost. And if the Madras Government had acted in the proper way by not exempting exports as such, its action is not to be condemned.

Section 7

MOTIVE OF SALES TAXATION

The previous sections would have left the impression in the minds of the readers that the sales tax is one which is adopted only in cases of extreme necessity, that it is a measure of last resort. Its appearance in the fiscal policy of various countries, just after the War and during the depression, has even earned for it the name of a "distress" tax. And one may be tempted to ask what exactly is the reason for its adoption in this Presidency when it has been subjected to no severe calamity that had disturbed the equilibrium of its budget and when the province was fairly off the depression. This chapter is devoted to discover the true answer for such a legitimate question.

From the speeches and articles on the subject at the time of the imposition of the tax, it is possible to tabulate 4 causes, which have been individually advanced by different persons as being the cause of the levy. The tax had been imposed,

1. to balance the budget which had a deficit of Rs. 17 lakhs,
2. to equalise the burden of taxation of the various sections of society or as is commonly claimed, to shift the burden of taxation from country to town,
3. to balance the trade of the Province and
4. to carry out the policy of Prohibition.

It is to be seen whether such imputation of motives as these could be justified.

Proceeding in the order given above, it is very doubtful whether the first reason could have ever acted as the sole motive for the levy of such a contentious measure. Modern tendency in budgeting does not seem to be the balancing of the budget every year but balancing the budget for a certain period. In the light of this tendency, it would not be correct to attribute this levy to the craze of a finance minister to see a balanced budget. On the assumption that theory might have been relegated to the background in the face of pressing needs, it needs to be brought out clearly that the deficit is so small, that if it was balancing that was desired, it could have been achieved by floating an attractive loan or by resorting to a milder form of other taxes, as was actually done. These arguments are sufficient to show besides pronouncements made to the contrary, that the balancing motive, if we can call it so, could not give a satisfactory explanation.

The second objective, i.e., to equalise the tax burden among the various classes of the country by taxing merchants who, it is alleged, have escaped paying their due share of the tax burden is doubtful of realisation. Is the sales tax the only means to correct this defect? Are there not less contentious measures than this one? Again what is the relationship between the grades in the tax fixed and the tax burden of the various sections of traders? These questions going to the fundamentals of the problem must naturally reveal the truth that if it was proper adjustment of the tax burden that was the only aim, the sales tax in the present form is a very bad choice and its selection had motives other than the one declared openly. The Taxation Enquiry Committee which analysed the question of the tax burden and devised measures to rectify the existing inequality, had not suggested the sales tax as a remedy, but had only recommended a more extensive and efficient administration of circumstances and property taxes, a higher rate of profession tax, probate duties and a steepening of the graduation of the income tax, (together with increases in local taxation) to be levied on merchants. Apart from the lack of approval by this expert body, the complete absence of any relationship between the rate of assessment and the ability of the various classes of traders, is a sufficient proof to show that the sales tax had never been intended as a corrective for the inequalities in the tax burden among the various sections of traders and hence among the various sections of society.

Surely along with the exemption of necessities from taxation, there ought to have been more gradations both in the slab rate and in the percentage rate if any adjustment of the burden was the aim. A uniform rate of the tax on turnover, could never be expected to shape the tax burden according to one's desire and more so according to the accepted canons of sound finance. Practically also, there are great impediments in the way of the tax achieving proper adjustment of tax burden. Such an assertion rests on a peculiar theory of incidence, which is very often violated in practice. It cannot always be asserted that the tax sticks to the place where it is applied, and is not passed on to the heads of consumers. The merchants always try to pass on the tax to the purchasers. The shifting of the tax is governed by several factors that it is not possible to say anything definite regarding its incidence.

The third claim stands to be analysed.¹ It has been proclaimed, with the support of sufficient figures, that the province has been experiencing in recent years an adverse balance of trade and that the sales tax has been imposed to check this tendency and improve the trade position

1. Madras Legislative Assembly Debates Vol. XII, No. 8 p. 544.

of the province. It must be examined whether this motive is theoretically desirable and feasible. However desirable it may be for the country as a whole to balance its trade, it is not sensible that the individual units of the country should have the same aim. If one province tries to balance its trade by adopting such measures as these, every other province would try to restrict the products of other provinces from coming into it. The result of this policy would be that inter-provincial trade would be stifled. Free flow of trade and commerce between the various provinces would be greatly hampered. Each province would try to produce within itself all that it requires; there will be diversification of capital and labour of all forms from the most profitable enterprises to the less profitable ones; the previously established division of labour would be seriously disturbed; and the national income of the country and every province would fall, in the short period at least. These would be the catastrophic results of this planless drive for self-sufficiency. The defect of the principle could be more glaringly demonstrated if the point is carried still further. Let each district in the province, each taluk and each village adopt the same principle by which their trade is to be guided. What a harmful idea it is for each village to balance its trade? What a sacrifice would that policy impose on its inhabitants? Further, is there no alternative to the sales tax, for balancing the trade of the province? If tariffs could not be imposed by the province, could not the system of bounties be tried? Besides, it is also doubtful whether the sales tax would be capable of balancing the trade of the province because of the uncertain nature of the incidence of the tax even if it is imposed. Anyhow, it seems that balancing the trade of the province was not so important a motive as the one to find money to finance the scheme of prohibition.

Thus it is to be understood that the introduction of the sales tax in our province is to be attributed more to the policy of prohibition, than to any of the other motives.

Section 8

THE BOMBAY SALES TAX ACT 1939

The Finance Minister, the Hon'ble Mr. A. B. Latthe introduced the Bombay Sales Tax Bill on the 30th March 1939, in the Bombay Legislative Assembly. Though the Act by its title leaves the impression that it is also a general sales tax Act, it cannot be said that it is really so. It can be remarked without diverging from truth, that it resembles more a form of selective sales tax Act or a retail sales tax Act.

A few important features of the Bombay Sales Tax Act may be mentioned here. Firstly, in contrast to the Madras measure, the tax in Bombay is not levied at the time of every transaction but only at one point. For there is an explicit provision that though the tax may be levied on the sale of any kind of goods specified in the schedule, at such stage between their manufacture, production or import, as the case may be, and their consumption, such tax shall not be levied on the sale of any goods at more than one such stage.¹ By rule 13 of the Bombay Motor Spirit Sales Tax Rules, the tax is levied on every retail dealer. The proviso to that section also brings any trader purchasing motor spirit for resale or consumption within the ambit of the tax. Secondly, the rate of the tax is rather high, the maximum rate allowed being $6\frac{1}{4}\%$ on the value of the sale of goods. This is in striking contrast to the Madras Act where the original rate was only about 1 pie in the rupee or $\frac{1}{2}\%$. Thirdly, the Bombay measure, is considered by many, as only a preliminary step to the introduction of a more comprehensive measure and as such is not a final measure introducing sales tax. The most important feature of the measure is that every trader carrying on business in the sale or purchase of any kind of goods specified in the schedule is forced to obtain a licence from the Collector for carrying on such trade in respect of each shop or place of business.² Even a hawker cannot escape taking out a licence, whatever may be the area of his operation. It is also provided that no trader shall carry on business in the sale or purchase of any kind of goods specified in the schedule without holding a licence (Section 8). Any violation of this section is severely punishable with fine which may extend to two thousand rupees. Further, the licences taken may be suspended or cancelled by the Collector

1 Section 3, Bombay Sales Tax Act, 1939.

2 Sections 6, 1 and 2, Bombay Sales Tax Act, 1939.

for default of payment of tax or any breach of any of the conditions subject to which the licence is granted, and for any contravention of the provisions of the sections of the Act relating to maintenance of accounts. This clear linking of the life of the licence with the maintenance of proper accounts must produce a wholesome effect; the Madras Act suffers much for want of such a clear provision. Under the Madras Act there is only a rule³ that the licences issued can be cancelled for violation of any of the provisions of the Act; this provision is very rarely put into use, for it is learnt that though the agents and a few other licencees have been noted for their incorrect accounts, their licenses have not been withdrawn in this district. The introduction of a provision similar to that in the Bombay Act, may improve the Madras General Sales Tax Act very much and serve as an effective check over a few methods of tax evasion. Fourthly, the Bombay Act does not allow the same latitude for the merchants as regards account keeping as the Madras Act does. The Act lays down that every trader carrying on business in the sale or purchase of any kind of goods specified in the schedule shall keep and maintain accounts in the form prescribed of the value of goods (manufactured, produced or import).⁴ The Madras measure while dealing with this question merely mentions that every dealer and person licensed under section 8 (of the Act) shall keep and maintain true and correct accounts showing the value of goods sold and bought by him; and it is only in such cases where the accounts maintained in the ordinary course do not show the same in an intelligible form that they will be forced to maintain true and correct accounts in such form as may be prescribed.⁵ Failure to keep accounts in the manner prescribed is liable for a heavy fine extending upto Rs. 500 under the Bombay Act. Fifthly, the Bombay measure must be said as giving very wide rule-making powers to the executive authorities.⁶ Even the rate of the tax is left to be fixed by the rule; the Act merely prescribes the maximum rate that should be levied which is 6¼% or 1 anna in the rupee. In fact, an amendment moved by an honourable member of the House that the rules framed by the Government for giving effect to the provisions of the Bill, should be placed before the Assembly, was defeated. The Finance Member replying argued, "that it would not be opposed to the principles of democracy if a responsible Government should frame its own rules, for giving effect to the provisions of a legislation."

3. Rule 8, Madras General Sales Tax Rules.

4. Section 10, Bombay Sales Tax Act, 1939.

5. Section 13, Madras General Sales Tax Act 1939

6. The rules need only be published in the Provincial Gazette and not placed before the legislature as in Madras.

Even with regard to the motive of the levy, there seems to be a difference between these two provinces. Even though Bombay stands to lose as much of excise revenue as Madras on account of Prohibition, and has greater justification in levying new taxes, because of its more rapid or suddenly accelerated policy of Prohibition and had consequently to incur as much as 1½ crores of loss of revenue in the first year itself, the tax is said to be more the outcome of a policy of rural development than that of Prohibition. It was also remarked in the legislature by the finance minister, while replying to the debate on the bill, "that a section of the house seemed to be under a misapprehension that the fund sought to be raised by the tax, was needed for the purposes of prohibition. The amount of Rs. 35 lakhs to be raised by the sales tax was intended to be utilised for rural development."⁷

It cannot be said that the Bombay Sales Tax Act is as comprehensive as the Madras General Sales Tax Act. The commodities taxable under the Bombay Act are only two in numbers which are mentioned in the schedule. They are motor spirit, and manufactured cloth, mechanically produced in Bombay or imported, and silk yarn, including artificial yarn and cloth made of such yarn. It need not be mentioned that in Madras the Act covers very nearly and virtually all goods. Besides this, there is a large difference in rate and in the mode of assessment, which have been enumerated above. These differences go a good deal to give the credit to Madras for having discovered a proper form of a new source of revenue, capable of covering up the present as well as expected future deficits, without causing any annoyance to the taxpayers.

7. Indian Annual Register, 1939, vol. 1, January—June.

Section 9

ADMINISTRATION OF THE MADRAS GENERAL SALES TAX

The tax is administered in every district by the Commercial Tax Department working under the Commercial Tax Officer appointed by the Provincial Government and the Deputy Commercial Tax Officer and Assistant Commercial Tax Officers working under him and appointed by the District Collector. The Commercial Tax Officers are responsible for the efficient administration of the Act and their chief work is of a supervising nature. By extensive tours, they keep themselves in constant touch with the work of the Deputy and Assistant Commercial Tax Officers and guide them whenever necessary. They are the appellate authorities under rule 13 of the General Sales Tax Rules; and under rule 14 (2) of the same set of rules they are authorised to exercise powers of revision. Any difficulty experienced in the matter of assessment or any other difficulty felt in the working of the Act is brought to the notice of the Commercial Tax Officer for his advice and guidance.

The assessment of dealers as well as the issue of licences are the work of the Deputy and Assistant Commercial Tax Officers, along with auditing of accounts which also is to be done by them; the collection of the tax is entrusted to the bill collectors and village headmen. Sometimes the Assistant Commercial Tax Officers also do a little of the collection work. As the Bill Collectors are employed only sparingly, the greater part of the collection work falls upon the shoulders of the village headmen. This has resulted in some parts in the village headman being apathetic towards the work, and the impossibility of getting into direct touch with them by the tax authorities has rendered their position rather helpless. It is hoped that in course of time, the village headman would begin to consider this work as part of their routine and would not give room for such accusations of indifference or negligence with which they are charged to-day.

It may be noted here that most of these officers have not been given any commercial training, as they have been recruited in most cases either from the Excise Department or from the lower ranks of the Judiciary. Though it is learnt from enquiries that they feel no difficulty in carrying on their work of auditing etc., it is felt, a course of training in commercial subjects would greatly facilitate their work. It is also interesting to note here that Merchants' Chambers of Commerce in certain places have also passed resolutions to that effect.

Section 10

ACCOUNTS AND ACCOUNTS CHECKING (AUDITING)

The successful working of the Act depends solely on the proper checking of accounts and any imperfections found in the execution of this most important duty may lead to the frustration of the object for which the Act was enacted. Hence the greatest care should be directed towards this question and efforts should not be slackened to devise measures to introduce perfection in the work in all possible ways as quickly as possible.

But before describing the actual manner of checking accounts practised by the tax collecting authorities let us examine the nature of the accounts maintained by the merchants and their mentality in the matter of showing them to the tax collecting authorities.

Types of account of Merchants—There are various types of accounts kept by the merchants which fall under the following category:—

1. Rough 'Kuripu.'
2. Fair 'Kuripu' (Journal)
3. Purchase and Sales Book
4. Ledger

A word about each of these accounts is necessary to indicate their usefulness to the merchants.

Rough 'Kuripu'.—This is an account maintained by the merchants wherein all daily transactions are noted in a rough and ready fashion. The merchant keeps this account mainly to aid him in his memory of things. He never has recourse to this account when once he has copied it in his fair Kuripu and carried it on in his purchase and sales book.

Fair 'Kuripu' (Journal).—This is the same as the previous one but for this fact that here the transactions are arranged neatly and in the proper manner. As the merchants are in the habit of entering their daily transactions in the ledger only at the close of the day's business or sometimes even after the lapse of a few days or weeks, these entries are of invaluable use to them. It may also be pointed out here that not all merchants keep this fair 'kuripu'; it is only a few dealers who keep this fair 'Kuripu'.

Purchase and Sales Book.—This is the same thing as what is sometimes known in English as trading account. This is the most important

account book both for the merchants and the tax authorities. In this account all purchases made by the dealer within the year he is following, as well as the sales effected by him are noted down. This account is complete in itself as it brings in all kinds of purchases made by the dealer and all sales effected by him, whether cash or credit. At the end of the year the merchant takes account of his stock and after comparing it with his purchases and sales accounts realises his position in the business. As this is the account book which reveals to the dealer whether he is working on profit or loss all merchants are very careful in keeping this account book in correct form. Even before the Act came into force this account book was maintained by the merchants.

Ledger.—This is only a register kept for the convenience of the merchant in which all entries regarding lending of cash and credit transactions are put in against the name of each person in the page allotted to him; and this is of great help to the tax authorities in finding out the persons doing business under “Vasakkattu” accounts.

These are the 3 or 4 important types of account books maintained by the merchants and available for the perusal of the tax authorities, and each one of these registers is useful in the actual checking of accounts by the authorities. “The Kuripu” is often verified with the purchase and the sales book and the ledger also is compared with the same. While the purchase and sales book form the main source of information the others serve as correctives.

Besides these mentioned above, the merchants are now asked to keep purchase vouchers and sale receipts. With regard to the preservation of the first the merchants feel no difficulty, for they file them up together usually in a long iron rod and hang it in a corner of their shop. It is only in maintaining the sales receipts that certain merchants feel the difficulty, for they could not afford to have receipt books with duplicate forms. Such cases are not severely dealt with; but all merchants are compelled to keep vouchers of purchases. The importance of these two kinds of bills should not be minimised as they serve to check certain new tendencies of evasion¹ The purchase vouchers are compared with the trading account and, where sales receipts are available, they are also utilised for comparison with the sale accounts shown in the same.

It is learnt that the merchants feel no special difficulty in keeping up the accounts. It does not cause them any annoyance nor do they feel it irksome. Even if they had felt any difficulty in the beginning, as

1. Refer page 69 relating to Omission of cash sales.

the smaller dealers admitted they felt, they had now become accustomed to it. Talks with the merchants had made it clear that they feel no difficulty in keeping accounts.

Special attention was paid during the course of the enquiry to learn whether the merchants had to incur extra expenditure by employing accountants or special accountants in order to maintain accounts. In the majority of cases, the answer has always been in the negative. They frankly admitted that they had been keeping accounts even before the enactment of the Act, and as the Act had not stipulated any special rule with regard to account keeping with which they may be unaccustomed, they had no cause for incurring any new expenses on that account. But special cases had been noticed where special or extra expenses had to be incurred by merchants. Wherever the accounts had been maintained in vernacular languages unknown to the tax authorities, a translation of the accounts in English or one of the languages known to the tax authorities had been insisted upon, and this had caused them some extra expenses. The difficulty could be easily solved by a judicious scheme of appointments and transfers by which a Tamilian or Andhra finds a place in his own district or in places where such languages are largely used. But as this policy, may cause some administrative difficulties, and may even lead to abuses on certain occasions, some other solution must be evolved. This consists in enforcing the tax authorities to learn the rudiments of the vernacular languages of the Presidency. Scales of pay commensurate with qualification would be a sufficient inducement to assure success for the scheme.

Further, the merchants are not reluctant to show the account books to the tax collecting authorities. The information gathered from a few officers of the Commercial Tax Department had only gone to prove that the merchants bring their account books as soon as they are called for. Hence it seems to the writers that fears entertained at the beginning of the Act that merchants would not like their accounts to be submitted to others for scrutiny, is born out of a wrong understanding of the psychology of the merchants. The merchants are quite ready to abide by the rules and regulations ordinarily, but grudge doing so only when they are called upon to submit accounts at improper times and places and wait at the office for unreasonable hours. It must also be said to the credit of the tax authorities that they try to adjust their time as much as possible to the convenience of the merchants.

*Quality of accounts kept by different classes of merchants :—*Of the various classes of merchants, dealers and commission agents, and of the various classes of dealers, that is, those with a turnover between Rs. 10,090

and 20,000 and above 20,000, an effort was made to gather some idea regarding the quality of accounts kept by them. It was noticed that intelligible accounts were kept only by a certain class of merchants, whereas in the case of others the tax authorities had to spend some time and effort to understand the accounts. A more correct idea could be obtained as to the classes of dealers keeping intelligible and non-intelligible accounts, if they are divided into those who are income tax assesseees and non-income tax assesseees. In the former case, as they had been trained and insisted upon to keep proper accounts, they are considered to maintain good and intelligible accounts. The others are yet to cultivate the habit of maintaining proper and intelligible accounts and it is hoped that with the passage of time, this defect too would be rectified. For the same reason, mistakes in the account books of the former class are less numerous than in the latter class. But it must be said that even these mistakes, in most cases, are only accidental and not wilful. Only mistakes in totalling or adding have been noticed. Even when other and more serious omissions had been found out, the merchants were only too ready to have them corrected.

Amongst the commission agents and brokers many have just begun to keep correct accounts, especially those who were formerly known as paddy brokers. These paddy brokers as they had no place of business, but did only commission business (according to them) by taking over cart-loads of paddy and delivering them at the mills without retaining them in any place for any time under their custody, had not been in the habit of keeping regular accounts of their business transactions. Once they are declared as 'dealers' and assessed on their turnover under this Act, they are compelled to keep proper accounts, just like other dealers, which they do, of course grudgingly. The other agents, viz., commission agents, maintain good accounts but serious mistakes occur on account of the 'forward sales' indulged in by them. The agents who adopt these methods are said to be easily detected by any vigilant tax officer. Apart from this type of mistake to which they are easily susceptible, they are found to maintain accounts in a proper manner and to a degree comparable with other dealers.

While these are some of the features of accounts maintained by merchants in general, special mention must be made of the Mahomedans and the Kallakurichi Comutis as regards their accounts; while the former deserve all praise for the superfine accounts maintained by them the latter stand to be condemned for keeping incorrect accounts. Their accounts have not been considered to be accurate and free from flaws for which they have been compounded on a few occasions. But it is hoped that this class of people too would reform themselves soon, in view of the stricter punishments that would be enforced on them in future.

Auditing.—This process of checking accounts consists of really two types of verifications, which may be called direct and indirect checking. Indirect checking is also called cross checking. On the whole the entire process is a very laborious one for the satisfactory execution of which an uncommon degree of patience and coolness on the part of the authorities is absolutely necessary. The merchants of Cuddalore confessed without any reserve that the authorities of the place were very kind to them even when they had committed mistakes in accounting and, if the same good-will prevails between the two parties in other places also, there is no cause to fear that serious bickerings would result between them.

The Deputy Commercial Tax Officer and the Assistant Commercial Tax Officers who are on tour for the major part of the month usually try to check the accounts of merchants coming under their jurisdiction as far as possible in the merchants' own places. It is only in the cases of merchants who have their places of dealings at the headquarters of the Officer himself that they are asked to bring their accounts to the office of the authority concerned. The merchant is made to bring his 'Kuripu,' Purchase and Sales book, and other bills and vouchers, relating to sales and purchases. It is felt by the tax authorities as almost a Herculean task to verify whether all the bills of purchase and sales are carried into the purchase and sales book. Only certain big items are generally selected and checked and if there are discrepancies, the tax authority makes it a point to verify the whole account. Sometimes the tax authorities also make a note of such dealers to help them in the verification of accounts in future. Explanations are asked for the discrepancies and, if what are offered are satisfactory, the dealer escapes without punishments; otherwise he is made to pay a fine.

This is only the preliminary checking; there are other methods more elaborate but more secret. These are mostly departmental enquiries. Whenever a dealer shows a purchase or sales receipt for any big sum, such attractive figures are noted down by the tax authorities and then referred to the Officer of that particular place from where it has been bought or to which it has been sold. The tax authorities in that place take this question on hand and verify whether that particular item is entered correctly, in the purchase or the sales account, as the case may be, of the dealer of that place. Information regarding the results of the inquiry is sent to the office that enquired. In cases where there are differences, the whole question is taken up again for consideration at the time of final checking or even before and the offender is punished.

Even apart from this, the verification is done with the help of a third source. The previous method would fail to give correct informa-

tion if there had been perfect understanding between the two dealers in the different places, as to what items should be brought in the purchase and sales book and as to how it should be manipulated. In order to safeguard against such extreme cases, the third manner of checking is usually done without the knowledge of either the seller or purchaser, by the tax officer availing himself of the records kept at the Parcels Office at the Railway Stations. Important items of less straight-forward dealers and big bookings are noted down and then verified in the ledger accounts of both the seller and the purchaser. This system of verification though it would yield very reliable results could not be carried out to perfection owing to inadequate staff in the various centres. The Tax Officers alone who could do such intelligent investigations have been overburdened with so much of clerical and routine work, that they are unable to carry out such necessary and important investigations as often as possible. But if the tax officers are relieved of such of their routine work and provided with clerks to assist them in their auditing, they could do a great piece of work this way and discover systematised, polished and well executed modes of tax evasion based on perfect understanding between the two parties, purchasers and sellers.

In the case of groundnut dealers in this district, verification is done with the help of Groundnut Marketing Committees also. These committees furnish very reliable information as regards purchases and sales of groundnut by dealers and commission agents. The utility of the committees would be greater if some more committees are organised with regard to other commodities also. According to the Act and the rules under which they are functioning, every dealer coming within their jurisdiction is compelled to submit a daily return of his purchases and sales. Whenever they suspect the accounts submitted to them by the dealers, the tax authorities call for more information from these committees.

These are the various ways in which the checking of accounts is accomplished. As has been mentioned earlier, there is a dire necessity to perfect this important work for which cross checking has to be done more elaborately. This would mean again an expansion of the technically qualified staff. It need not be mentioned that the present policy followed here with a view to minimising the cost of administration of this new tax, must give place to a better one.

Section 11

CERTAIN DIFFICULTIES

It is but natural that difficulties should be experienced during the first few months of the working of any Act as it takes really a considerable time for a routine to be established. Most of the problems that have arisen in connection with the Act under consideration are connected with the question of assessment and only a few others with other questions. While by the process of time many of these have been solved, still a few exist over which decisions are yet to be taken

Assessment of Agents.—The problem of dealing with the agent has given the greatest trouble to the Department. If there is a serious omission in the Act, it has to be found in the absence of the definition of agents. The authorities have therefore to be guided by nothing more than their own ideas of the business of the agents and whenever the agents run counter to the views held by them, it is difficult for the authorities to deal with them. The agent carries on business in the mofussil centres on behalf of his principal for which he receives a commission. For being the agent of a principal dealer, he has to enter into an agreement with him, oral or written, which he is expected to observe but he generally does not. For all purposes he is considered an agent only so long as he observes these terms of contract and ceases to be one when he breaks them. The difficulty experienced by the tax authorities begins only when the agent breaks his terms of agreement with his principal. So long as he observes the terms of the contract, and is an agent in principle and in practice, his sales are exempted from taxation by the licence taken by him under section 8 of the Act. But how is he to be assessed when he behaves contrary to the principles of his agency is the question that the authorities have to face.

Occasions when the agent breaks his principles are too numerous and the manner in which he does so are also too various. The commonest type of violation is found in the '*forward sales*' that are contracted. This consists in showing sales for larger amounts than real sales in the principal's account, while retailing the difference on hand with a view to selling them during the times of increased prices. This tendency the agents evince at all times when there are symptoms of rising prices. The extra profits realised this way are not credited to the principal's account, but are taken away by the agent himself. The agent's accounts to the principal are manipulated to show that he has

sold the commodity only at the stipulated rate whereas he has really sold it at a price higher than the contractual price. This is a case of the violation of the terms of the contract by the agents and the problem of how they are to be assessed under such cases has given considerable trouble. Now, the procedure adopted is that whenever the terms of the contract entered into by the agents with their principals are broken in the matter of price, the agents are taxed as 'dealers.' The argument advanced in support of this practice is that when once the agent stocks goods on his own responsibility and is ready to monopolise the profits or to meet the loss, he acquires a right over the property and hence becomes a dealer and should therefore be assessed just as a 'dealer'.

While the violation in this matter has been settled, there are certain other cases of doubt which have not yet been cleared. Some agents try to tamper with the *quantity* of the product. This tendency has been noticeable in the case of kerosene agents who draw out a quantity of kerosene from the backside of the sealed tin by making a small hole which is sealed again after the process is over. This is also a violation of the contract by the agent, for though the tin is sold at the contractual price, the quantity to be delivered is reduced by the agent without the knowledge of the principal. A similar type of violation exists when the agents get the quantity in bulk and sell it in undersized tins. Some agents collect extra sums in addition to the agreed price in the name of transport and other incidental charges which they are not expected to collect under the terms of their agency. Some others even go to the extent of collecting the sales tax even though they are not assessed under this Act. How are these cases to be assessed is a matter of difficulty encountered in the course of the working of the Act. Sometimes agents are obliged to sell at a higher price whenever they transact business with their sub-agents or wholesalers on credit. In these cases he charges a higher price to cover the risk and interest charges involved in the credit transaction, though he submits accounts to his principal at the agreed rate and makes up the deficit in cash at the time of remittance of money from his own purse. There are other cases where the agents sell the commodity at a price less than the agreed price by foregoing a certain portion of the commission he gets as the sub-agent or wholesaler pays him ready cash. Though it seems justifiable in these cases that he should charge a higher or lower price as the case may be, to cover himself against any risk or to show some concession to dealers in cash, as these actions seem to give him a title over the property which he does not possess as an agent, doubts are entertained as to how the agents are to be assessed under such circumstances.

The reasons for the difficulties experienced in these doubtful cases are to be found only in the serious omission of the definition of the term 'agent' in the Act. If a comprehensive definition, covering up the activities and duties of the agent is drawn up leaving no room for doubts to arise, it is hoped that many of the questions left unsolved would be properly solved.

The case of paddy brokers.—The case of paddy brokers calls for special consideration as they have been another source of friction in the smooth working of the Act. These persons wish to pass off as commission agents, and escape paying the tax whereas they are really dealers, as a description of their business would show. In and around Chidambaram a large number of paddy brokers regularly supply paddy to the mills in that area. The mills advance them cash with which they purchase paddy in the villages on their own account. They take samples of this paddy to the various mills in the locality and after noting the prices they are willing to pay, dispose it off to the highest bidder. Being themselves men with very meagre resources, they do the business on the money advanced by the mills, and on that score claim they are the agents of these mills. But when the mills are questioned if they would admit the paddy brokers as their agents they refuse to have any other relationship with them save that involved in advancing cash and realising it as they please, in cash or kind. Virtually beyond the bonds of a debtor and creditor, the mills would have nothing else to do with the agents. In such circumstances the position of the brokers is rendered anomalous. However, it must be noted that they purchase paddy on their own account, acquire the right of property over such goods, and also run the risk of incurring a loss in the course of their transactions. These things which are only the marks of an independent dealer bring them under the definition of 'dealer' and they are now accordingly taxed under that head. The same problem is also noticed in the case of certain merchants connected with the marketing of groundnut at Cuddalore. They buy groundnut, sort them into different grades, sell them at a price higher than the cost price, but still peculiarly claim to be only middlemen or agents who do nothing more than merely transfer the produce from one hand to another. But such cases have been classified not as agents but as regular dealers on account of their intermediate business of mixing and grading and selling the produce at a difference over the cost price.

In both these cases the assesses have found it rather difficult to approve of the treatment meted out to them and hence try to give as much of trouble as possible, while the authorities try to trace them out for realising the amount of the tax. The authorities are subjected

to many difficulties in this work, as the information available from the mills is in some cases not helpful and complete. The very fact that only 25 out of the nearly 65 paddy brokers in the district of Cuddalore have been assessed so far is sufficient proof of the enormity of trouble, difficulties and delay involved in bringing them under the orbit of taxation. These administrative difficulties, it is feared, will grow in future. They can be got over only in course of time by instilling into the minds of these persons the responsibilities they owe the state, by making them tax conscious and by imposing heavy penalties on those obstinate cases of refusal to pay the tax.

Assessment of Seasonal Traders—Another difficulty experienced in the working of the Act is connected with the assessment of the seasonal traders. These as their very name implies are engaged in business for only a certain number of months in the year and suspend business for the rest of the year to be started again the next year at the proper season. No difficulty arises amongst the dealers of this class with a turnover of over Rs. 20,000 as they pay the tax at a certain percentage rate. It is only in the case of those who are assessed under the slab rate that the difficulty is experienced. The taxpayers under this clause have to pay (Rs. 5 formerly) Rs. 4 a month which they refuse to pay during the months when they are doing no business. They contend that they have “stopped” business and as, by the Act, a tax has to be paid on the sale effected “in the course of trade or business” they argue that the tax need not be paid when the trade or business is stopped. *Prima facie* their contention is wrong, for they have not stopped the business altogether but only *suspended* it to be resumed later on in the next year. As such they should be made to pay during all months even though it goes against common sense and fairplay and the canon of convenience that one should be made to pay a tax when he is deriving no income out of which he could pay it. But if their contentions are accepted and they are exempted it would create an anomaly in the Act, for a dealer doing business for Rs. 19,000 in two months will be liable to pay only Rs. 8 whereas one doing business for a pie more than Rs. 20,000 has to pay Rs. 50 per year. Hence care must be taken to see that such anomalies do not creep in. A compromise out of these two ways of assessment has to be struck according to which they should be taxed. It seems that the seasonal traders in as much as they differ from regular traders by a wide margin should be dealt with separately in the Act. It is felt that the Act itself could be suitably enlarged, if necessary, by introducing a new clause to deal with them.

Cases of Non-assessees collecting the tax—There are many in these parts who though they are not assessed under the General Sales

Tax Act do not refrain from collecting the tax on their sales from the customers. Such people even after repeated warnings by the tax authorities are said to be very persistent in this wholly condemnatory action. Such cases are encouraged to grow in numbers in view of the luke-warm policy followed by the officials in taking action against them. On their part the authorities are unable to take any action as there is no provision in the Act to deal with such cases. To take proper action it is necessary that suitable modifications should be made in the Act or rules to put an end to such undesirable and improper actions of certain greedy merchants.

Section 12

DOUBLE TAXATION

Even while the Madras General Sales Tax Bill was on the anvil of the legislature, it was feared that owing to complexities of trade, cases of double taxation might creep in and hence a certain section of the legislature thought it fit and necessary to enact an explicit provision in the body of the bill, to guard against the occurrence of such evils. The result was the proviso to clause 3 (1) which said "that in respect of the same transaction of sale, the buyer and the seller shall not both be taxed, but only one of them, as shall be determined by the rules made in this behalf under subsection (2), shall be taxed thereon, and (2) that, when the amount for which any goods were bought by a dealer has been included in his turnover, the amount for which the same goods were sold by him shall not be included in his turnover, for the purposes of this Act." Thus while care was taken to provide against complexities of trade leading to double taxation, the complexities of the Act itself have led to such a practice. The difficulty arises out of the policy followed in taxing the purchase amount in the case of a few commodities which are groundnut, leaf tobacco, cashew etc.* In many cases the buyers of these commodities in the local markets, effect the purchases with a view to converting them into their finished products and selling them at increased prices in the market. In addition to paying a tax on the purchases of these commodities, the dealers are taxed again on the sales of the finished products, which they represent is a clear case of double taxation and from which they should be exempted.

How far is it correct to regard this practice as an instance of double taxation is rather a debatable point. Strictly speaking a case of double taxation may be said to occur here, if the same person is taxed twice, once on the purchase of the commodity and another time on the sale of the same commodity. The merchants contend that it is nothing but a case of double taxation pure and simple as they are taxed once while they purchase the commodity and again when they sell the product of the same commodity. They further point out that the term 'same goods' in section 3 (1) includes the different varieties of goods manu-

*The Madras General Sales Tax Act (Turnover and Assessment) Rules, Section 4, Sub-section 2, 1939.

factured from the original goods without the addition of any other extraneous goods and as in the cases under observation, no extraneous goods are employed, the final product being only a variety of the original product, should be exempt from taxation. But the other view is that dealers are not taxed on the sale of the same commodity, but only on the product of it, whose physical and chemical properties are so different from those of the original commodity that they form a different commodity by themselves and hence liable to taxation. It is said that it should not therefore be construed as a case of double taxation. The merchants rather feel it difficult to reconcile themselves with this view and still hold that they are being unjustly taxed twice, and there seems to be a certain amount of truth in their statement also. For it is not the commodities that pay the tax but only the persons who deal in them; and if the same person is asked to pay twice, the merchants who are more practically minded, unable and unwilling to understand the niceties in the counter arguments advanced, are too quick to proclaim vociferously that here is a case of unjust and oppressive taxation. Since for all practical purposes this seems to be not very much different from a case of double taxation, it may be considered as such in the following pages.

Whatever may be the name by which it may be described, the effects of this practice have been found to be very injurious in this district and the same, it is feared, would be the result in other places also. As this district has got a large trade in groundnut, it has been possible to study the question only in relation to this trade. If similar attempts are made in other places where dealings in other commodities are wide and large, the effects of this practice would be seen in full.

Nearly 367,000 acres of land are sown with groundnut in the year 1939-40 which represents about 30% of the total normal area sown in this district. As such it forms an important supplementary crop and, with some people, even the main crop and hundreds of labourers make a living in the cultivation of groundnut and in the industries connected with it. The total production for the year under observation is estimated at 70,000 tons. To this must be added the goods imported from parts of Coimbatore, Salem, Trichinopoly, Tanjore, North Arcot and Chingleput if the total trade of the district in the commodity is to be assessed correctly. It has been estimated for the year 1939-40 that the total arrivals in all the different markets, including the products from the districts bordering on South Arcot come very nearly to 90,500 tons of which 74,800 tons representing 82% is taken by the

exporting firms, 4664 tons equal to 5% is taken by the press and 'chekku' owners. These figures would show the large volume of trade carried on in groundnuts and the necessity to guard the trade against mishap due to double taxation.

The effect of this policy of double taxation has been most noticeable in the case of the groundnut oil industry. Formerly, that is five years back, the industry was in a flourishing condition. But now, owing to the disappearance of export of groundnut oil from these parts, the industry has declined very much. It is said that 100 presses originally each costing about Rs. 1,000 have been sold in recent years as scrap iron for a ridiculously low price owing to the fall in the demand for oil from outside. At present only 1 expeller, 15 presses and a few 'chekkus' scattered over the country, are in operation in the district. This was the condition when the Act came into force, and the merchants engaged in groundnut oil say that the Act has given the deathblow to this dwindling industry. The main cause for the decline of the industry is to be found in the severe competition of oils from the Hyderabad State. The state which is a producer of groundnut on a large scale and which was exporting large quantities of the raw product has imposed an export duty on groundnut with a view to retaining within its boundaries the industries connected with the raw product. As the price of groundnut in the state is governed by the rates for port delivery in the province, this has made the purchase of groundnut in the state cheaper by more than the export duty, and as no export duty is levied on groundnut oil, the tendency of merchants has been to purchase groundnut in the state, convert it into oil and sell it at competitive rates in the local markets of the district. Thus it has been possible to sell imported oil at Rs. 3 per ton cheaper than local oil. The coming into force of this Act in October of 1939, has placed the local oil industry at a further disadvantage as the local oil producers have to pay the tax twice, once while they purchase the groundnut and another while they sell oil, while dealers in the state oil pay tax only once, on the sales of the oil. This, they represent, widens the difference already existing in the rates of the 2 sorts of oil leading to a further decline in the demand for local oil.

The merchants of these places have not been slow to realise the difficulties caused by this kind of levy and have formulated their case before the tax authorities. They proclaim that they are willing to pay the tax either on the purchase of groundnut for oil extraction or at the sale of oil. Their solution for the difficulty consists in granting them a rebate on the purchase of groundnut for oil extraction. This would be possible as they keep separate accounts of their purchases in groundnut for trade and for oil extraction. But a much better way of giving relief is by

exempting the manufacturers from paying the tax on their sales of oil and cake. This would virtually mean the exemption of the first sale of locally produced oil and cake. Thus the difficulty felt by the manufacturers in disposing of their oil could be got over and the difference in prices between the two oils may be minimised. This method of giving relief is considered to be superior to the other method suggested by the dealers themselves, as the chances for manipulation of accounts are comparatively less here than in the other case. The manufacturers trading in locally produced oil usually do not trade in imported oil from the state except in rare cases and in rare circumstances. Hence under ordinary conditions there are no chances for evasion in this method, by passing of imported state oil as locally produced oil. On the other hand, as most of the purchasers of groundnut deal in raw groundnut and oil, the chances for duplicity by a distortion in accounts are greater in the method suggested by the merchants. Thus from the fiscal and administrative points of view the former method seems better.

It would not be out of place to say that by granting relief in this way, the Government does not stand to lose much. At present there are only about 15 assesseees in this district under this Act engaged in the manufacture of oil. Of these 8 are 'chekku' owners who are assessed under the slab rate; 6 are manufacturers using presses while there is only one using an expeller driven by power. The average turnover of these 6 dealers using presses is estimated at about $3\frac{1}{2}$ lakhs of rupees a year. On the basis of the rates of tax for 1940-41, the loss to Government, if exemption is granted to sales of oil and cake by these dealers, would come to about Rs. 875 and, even if it is supposed that those who are now paying the slab rate would fall below the minimum level, on account of the exemption given, which is very unlikely, the loss on that sum would amount to only $8 \times 48 = 384$ Rs. The total loss therefore would not be more than Rs. 1,500, allowance being made for the case of the expeller also. This is not a big sum which the Government could not forego in a district where the income for the half year has come to about Rs. 78,000, on 1939-40 rate. If the income for the full year of 1940-41 is calculated on the same figures owing to reduction in the rate of the tax, the loss would not be more than 1.7%. Even if slightly higher rate of loss is incurred in other districts, where the trade is being carried on, it is felt that there is no case for the Government to delay granting this relief in view of the impending disaster to one of the important indigenous industries and the consequent suffering that would be caused to those dependent on the prosperity of that industry. But so far no gesture of help seems to have come from the Government; it can be said that they have not brushed aside the question but are giving it their full consideration.

In these circumstances, the local oil producers have found it impossible to pass on the tax to the shoulders of the purchasers of the local oil, because of the competition of State oil. Nor are they able to pass it on the sellers of the raw produce, for the exporting firms compete with them here. The result has been the adoption by the dealers of a most hateful and highly objectionable policy, to rid themselves of the burden of the tax. It has been found, that many of the oil press owners, under the curious impression that the addition of labour alone has made the commodity taxable a second time and that therefore the labourers should be made to pay the tax, have been deducting one pie from the daily wages of the coolies employed by them. This levy of one pie on the labourer comes to about 2 to 3 annas per month, and the deduction of this amount from his meagre wages, is a thing which he may not afford. But as the labourers are mostly disorganised and illiterate, they find it impossible to fight over the issue and they meekly submit to any exactions imposed on them. This is the grave danger to which this mode of taxation has led, and unless effective measures are taken, it is feared, there is no knowing to what hardships the labourers may not be subjected.

Section 13

TAX EVASION

Along with the growth in the methods of taxation, ways of escaping the payment of taxes have also grown up. They are today so great in numbers and so widespread, that they have grown powerful enough to defeat the purpose of taxation itself. With every new tax or new act, new methods of tax evasion spring up. Some people indulge in them mainly for the pleasure they derive from such a deed; but many others try to avoid paying the tax because of the pecuniary gain that evasion brings; still others resist paying the tax owing to political convictions and it is only proper that such cases should not be treated as cases of tax evasion.

It is to be noted that in almost all cases where evasion prevails, it is due to the defects in the acts and rules relating to the tax. These defects can be remedied by the legislature by suitable modifications of the act and formulation of rules.

Many kinds of evasion of payment under the General Sales Tax Act have been noticed and they will be narrated one by one; one such is that indulged in by the bullion merchants. The dealers in bullion are exempted from taxation under the Act, subject to certain conditions including licensing. According to the rules framed they are obliged to take out a licence which exempts their dealings in bullion from taxation under this Act. As per the Act, while their dealings in bullion are exempt, they are liable for taxation for the sales of articles manufactured out of the bullion, that is, wares and jewellery. It is this part of the Act that is violated resulting in a serious kind of evasion.

There are nearly four kinds of bullion merchants, some of whom are difficult to be tackled with. Some are dealers in bullion as such, that is selling bullion as such, and earning very meagre profits. Another class of bullion merchants have such dealings in addition to dealings in silver wares and jewellery. The difference between these two types of dealers and the next is that while these do not own a smithy of their own, the third type has a smithy of his own wherein he has got facilities to make wares and jewellery to order and out of the bullion he has. The last class of dealers in bullion are the manufacturers who carry on business on a large scale by sending manufactured articles to dealers in the mofussil and receiving cash or inferior silver in return.

Of these categories, it is the third class of dealers who are predominant in almost every place. Next in rank comes the second class of dealers, i.e., those who deal in bullion and wares but do not own a smithy. It is very rarely that exclusive dealers in bullion as such are met with.

While the first mentioned class do not create any problem, it is the others who are the source of a serious form of evasion prevalent on a wide scale, which even when found out is felt difficult to be tackled. How they successfully try to evade the tax, will be understood when each of these classes is dealt with separately.

Taking the third class into consideration first, it is found that most of them are having direct contacts with consumers or the public. They purchase bullion from the wholesalers and as soon as it is brought to the shop, a great portion of it is sent to the smithy for conversion into wares and jewels. The evasion of the tax begins here when an adjustment in the accounts is made. The bullion taken to the smithy is not shown as such in the accounts, but are kept in suspense. Whenever a sale from the wares and jewellery stocked in the show room takes place, the sale is shown as two sales, by showing the value of bullion content and the making charges separately. Sometimes two receipts are given, one representing the sale of bullion and another making charges; while at some other times, two such sales are shown in the same bill separately. On the same day the sale is effected, to complete the trick, the bullion content of the article sold is transferred to the purchase and sale register kept for bullion, where it is shown as a sale of bullion on that particular day. It is this way that the evasion is accomplished by showing the major part of the transaction in the form of a sale of bullion and covering it up by the licence taken under section 5 of the Act, and allowing only the minor part, that is making charges only, for taxation. Strictly speaking, the bullion merchant may escape taxation even on this part of the turnover as this is only charges for "services" rendered. But the practice of charging bullion merchants on this part of the turnover seems to be prevalent in Madras, which has also been copied in some mofussil stations. As most of these dealers are intelligent businessmen with high business acumen and keep perfect accounts, it has been found difficult to check this malpractice, by fastening upon any defects in their accounts. Even sudden inspections of their stalls and a verification of their purchase and sale of bullion with the stock placed in the show room do not help in bringing out the truth as the dealers escape by saying that the stock had been made to order, out of silver brought by their customers, who on enquiry invariably happen to be relatives of the merchant.

Generally, the second type of bullion merchants does not commit such tricks. They are dealers in wares and jewellery bought by them from the manufacturers. As they do not own a smithy of their own, they would be exposed if they enter their sales separately. Hence a good number of dealers in this class enter their transactions as sales in wares or jewellery and subject themselves to taxation. But the more adventurous among them enter the two sales separately, make the necessary modifications in their accounts, with regard to their purchases* and escape by saying, that they made things to order in smithies known to them, though they did not possess one of their own.

The procedure adopted by the manufacturers is different. They are both dealers in bullion and in wares and jewellery manufactured by them. Besides having direct contacts with consumers, such big manufacturers send articles to other dealers to be sold by them. It is here that the source of the series of evasions that follow is to be found, for, the manufacturer instead of entering in his accounts the sale in wares as a sale in manufactured article, records it as a sale in so much of bullion and so much of making charges. Further, most of these manufacturers have got running accounts for silver with their purchasers and credit to their account the bullion received from the purchaser against the bullion content sold to him by them. Thus the whole transaction is shown as dealings in bullion while they are really transactions in manufactured articles. Strictly speaking they are not dealings in bullion even though bullion is exchanged for bullion, for the manufactured articles are not made out of the bullion received by the manufacturer but from different bullion. The silver that is paid by the customer is very often of an inferior quality and really serves only the purpose of currency. The transaction of the manufacturer can only be considered as a transaction for 'valuable consideration' and will have to be assessed as per rule No. 17 of the Madras General Sales Tax (Turnover and Assessment Rules).

It is not proper that all these type of transactions should be allowed to go tax free and strict measures to check this widespread and ingenious mode of evasion must be forthwith taken. The check must be applied at the very source *viz*, the manufacturers, for it is because of the accommodating nature of the accounts allowed to be maintained by the manufacturers that the evasion creeps in. All manufacturers and bullion dealers must be insisted upon to keep, purchase registers, showing their purchases of silver and wares, an account showing the silver taken to the

*This is facilitated by the accommodation shown by the manufacturers in accounting.

smithy, the articles manufactured, their bullion content, their sale of wares and jewellery with all details as to the purchaser date and terms of contract of sale, and finally an order book showing the orders placed with them by their customers. These accounts, if they are properly kept would go a great deal in putting a check to this practice of evasion and as the accounts would help the tax authorities in their cross checking, it may not be too much if it is expected that the practice would altogether disappear.

Another kind of evasion is accomplished under a type of business partnership known as "*Kashtakootu*" (கஷ்டக் கூட்டு). This is a form of business organisation where more than one person join together and do a business or different businesses on the money advanced by a single individual. In such a case, the principal dealer is said to carry on the business on "*Kashtakootu*" basis. He may be himself doing a single business, while he may be engaged in other business e.g. jaggery, groundnut, etc. in combination with others. While the principal dealer advances money to these individual traders with whom he is in combination and also claims a share of the profits that may accrue in the business, he is not concerned very much with the actual working of the business, which is done by the person who had borrowed the money, and who for the sake of convenience may be called a working partner. These working partners are usually men with very poor means but endowed with good business ability; it is only on this consideration of their business ability that the bigger merchants advance money.

The principal dealer never tries to show the turnover of the working partner in his accounts, especially after the coming into force of this Act, but only enters the money advanced to him in, a type of account maintained by him which is known as '*Vasakkattu*' account. The working partner could not be taxed on his business as in most cases it does not go beyond Rs. 10,000. Further these working partners have no particular place of business, which makes it almost impossible to trace out the business. In one or two cases when such working partners were questioned by the writers as to what they would do if they were taxed, they replied by saying that it was not just that they should be taxed, as they were only doing the business on behalf of their principal dealer, that the money with which the business was done was not their own and justice requires that the owner of money who had lent the cash should be taxed. When a principal dealer working on *Kashtakootu* basis was questioned, he quickly retorted by saying that he has only a share in the profits for the money he has lent, that he has not himself conducted the business and that therefore he should be exempted from taxation. Thus a large volume of business has been escaping taxation. The vigilance of the Tax Officers

alone has been responsible for finding out such cases and bringing them within the orbit of taxation.

In cases that had been found out by the tax authorities the turnover of the working partners has been added to that of the principal dealer who is assessed on the total turnover. In Cuddalore alone enquiry has shown that many cases have been discovered and assessed. The offences against evasion have been in most cases compounded for sums that are lenient.

This kind of business organisation is found to a very great extent at Kallakurichi and Tirukoilur and other places bordering on the Salem district, where it is practised mostly in the purchase of raw materials. In the neighbourhood of Chidambaram and Cuddalore, such type of business organisation is rare, though the lending of money by a bigger merchant to smaller or itinerant merchants on "Vasakkattu" account is quite common. The Kashtakootu organisation is said to be prevalent generally in all those places, where dealings in the purchase of raw materials is carried on widely. Even an approximate idea of the number of dealers engaged in this kind of business is difficult to secure. But it can be said without any fear of contradiction that they are sufficiently large in number to deserve the immediate attention of the tax authorities.

In places where this type of business organisation is not prevalent, evasion is practised by merchants under the heading of "*Vasakkattu accounts*." This type of account is maintained by almost all merchants in these parts. Under this mode of accounting only cash advanced by a principal dealer to his near relatives, intimate clerks or close friends for the purpose of trading is entered. The clerk, relative or friend buys the commodity on the instructions of the principal dealer, sells it as per his directions, returns the money and profit when the transaction is over, himself retaining only a share of the profits. Sometimes instead of selling the produce to a third party, it is taken by the principal dealer himself, who instead of showing the purchase of produce in his purchase accounts, adjusts the value of the produce bought against the cash lent by him. This type of false accounting is purposely kept to cheat the tax authorities. The vasakkattu account in such cases does not reveal anything more than mere cash dealings, and in both cases, whether the goods are sold to a third party or are taken by the principal dealer himself, the purchase and sale of these goods are not brought in the accounts rendered by the principal dealer. Unless the assessing authorities are vigilant while checking the accounts and call for the details of the vasakkattu business the trader escapes. This type of evasion is common almost everywhere. In principle, this is not very much different from the one previously described, but there are slight differences between the two forms over the

question of responsibility of business which have earned for this the special name of "Vasakkattu business." As evasion under this heading is more widespread than under "Kashtakootu" business, which is confined to only certain localities it seems necessary that certain regulations should be drawn up by the Government with a view to restricting this type of evasion. All persons having "Vasakkattu accounts" should be forced to maintain separate accounts showing the persons to whom cash is advanced, the purpose for which it is advanced, the manner in which it is recovered etc. The persons borrowing under "Vasakkattu accounts" may also be asked to submit to the nearest tax collecting authority all details as regards the transactions as e.g. the person from whom money is borrowed, the purpose for which it is borrowed, the manner in which it is utilised and repaid. It is realised that the enforcement of these suggestions would mean a lot of work for the officers which may necessitate the increase of departmental staff, but they have to be carried out if leakage is to be stopped.

Commission Agents—The agents provide another loophole in the Act. They cover their sales with licences taken under section 8 of the Act and it is their principals who are obliged to pay the tax on the sales effected by them. For this purpose, they have to send monthly returns to the office of the Commercial Tax Department of their turnover, just as they have to send returns to their principals. It is in the discrepancy noted in these two accounts that we find the third source of leakage.

Under the terms of certain kinds of contracts entered into by the agents with their principals they can sell the produce only at the rate fixed by their principals. But the agents especially, in some branches have always a tendency to sell the articles at a higher price with a view to monopolising the profits for themselves. They watch whether there are any tendencies for a rise in the price and if there are, submit accounts for larger sales in the returns tendered to the principals than the actual sales. When the price actually goes up, they effect the sales take the profits for themselves and render no accounts in the returns submitted to their principals for this extra amount realised by them. As the principals alone are responsible for taxation, unless this discrepancy is brought to their notice, the agents succeed in hoodwinking their principals of their profits as well as the tax authorities of the tax.

The loophole would not be serious if only some agents had taken to this type of "forward sales" as they are called; but the tendency seem to be common amongst almost all the agents especially those dealing in kerosene and manure. It is a bit difficult to say who exactly is responsible for the evasion, whether the agents or the principals. The principals

cannot be held liable for the fault, for they are not responsible for the mistake; they are themselves duped and it is only incidentally that the Government also come in for loss. It has therefore to be noted that the agents are the real offenders. As a punishment for their offences whenever such malpractices are found out, the agents are taxed as dealers on their total turnover. But a perfect scrutiny of accounts is not always possible. Further even when found out such agents are not seriously punished, but as remarked previously, are merely taxed as "dealers." It is perhaps this leniency that encourages them to carry on such forward sales as often as possible. A more drastic punishment in the form of a withdrawal of licence when such tactics are indulged in by them, may have greater effect in checking this temptation.

While in this case the agents are to be blamed, there is another manner of evasion where the principals are responsible for evading the payment of the tax. This kind of evasion consists in not showing the expenditure charges separately item by item, but in showing only the actual sale proceeds they had realised after making allowances for all deductions. This practice is not peculiar to those who sell their goods through commission agents only but also among dealers. Whenever merchants sell goods through commission agents, some of them do not show in their accounts the full value for which the goods had been sold and accounted for by the commission agent as sale proceeds in their accounts but only the net amount of sale proceeds they actually receive after deducting from the accounts submitted to them all items of expenditure, both by them and by their agents. This process of accounting, besides making cross checking difficult and placing the agents in a precarious position, serves as a fruitful source of evasion. The merchants are encouraged in indulging in such kind of accounting, as there is nothing positive in the Act which makes it obligatory on their part, to show in their accounts the full value of the sales effected on their behalf by the commission agents and not the net amount they receive after allowing for many deductions. In addition to making provisions for the maintenance of such type of accounts, stipulations must also be laid down that items that are to be deducted should be shown separately, and not treated in the fashion done at present. The reason why many dealers refrain from showing expenses separately, is due greatly to the objections raised by the Income Tax Department against too many deductions. If sufficient safeguards are provided against this difficulty, this serious kind of evasion current both among dealers and merchants selling through commission agents could be effectively checked.

Omission of Cash Sales.—In addition to these modes of evasion a tendency seems to be prevalent especially amongst the merchants of Madras, to omit cash transactions of sale in their accounts and keep the

book turnover low. Such a tendency is highly dangerous if it spreads on a large scale. Effective measures must be taken against such practices to nip them in the bud. The only remedy to check this evil seems to be in educating the public to demand bills or receipts for their purchases and to force such merchants to keep receipt books with duplicate forms and to conduct a thorough verification of accounts with these duplicate forms.

It must be admitted, that the examination of the question of evasion leads us to conclude that it is being practised not because of any predetermination on the part of the merchants to dupe the Government but because of the existence of certain loopholes in the Act and the rules made thereunder. If steps are taken to amend and modify the Act wherever necessary and lay down more rules with a view to checking the types of evasion enumerated above, it is believed that such practices would end at the earliest possible time. It should be clearly appreciated that the evasions practised at present are not due to any political or other convictions nor even due to any inherent psychological weakness of the Indian merchants, but only due to the imperfections in the Act which make it possible for them to escape without being caught or if caught, without being severely punished. If penalties for violations are made more stringent and enforced more strictly, no doubts need be entertained as to their effectiveness in checking these malpractices.

Section 14.

SHIFTING AND INCIDENCE OF THE TAX

While consolidating the results of the survey on this most important question, it must be observed, at the outset, that it is a very knotty problem and that the results obtained must be studied in conjunction with the limitations mentioned below. A comparison of the prices of articles prevailing after and before the Act came into force, or after the Act came into operation and before it was announced to be introduced, or in the same period during last year and this year is not likely to reveal the true relationship between the tax and the price or the pricing policies of the merchants for the mere fact, that price levels are subject to a variety of forces apart from this new one. The outbreak of the war in September just a month previous to the coming into force of the Act, introduces a factor whose effect is almost impossible to isolate. Hence it has not been possible to assess the effect of the sales tax on the retail and wholesale price fluctuations. When deduction has failed or is suspected would lead to wrong conclusions, an attempt has been made to study the question inductively. It need not therefore be mentioned here that what is said in the few following pages is a mere attempt at a logical and a cogent statement of conversations conducted with a good number of dealers of all classes with the help of the questionnaire. It seems better to warn the reader here against placing absolute reliance on the statements. The conclusions reached have been based on what businessmen say they have done. Sometimes they might have given false information either wilfully or out of indifference, or fear. An absolute faith in their words is not warranted on account of these limitations. But the writers feel that the suspicion due on this account can be ignored as a large number of cases have been well examined.

While studying the questions of the shifting and incidence of the tax, how it is charged and collected from the consumers, it needs to be considered how and how far the various classes of dealers engaged in trade succeed in accomplishing this. There are various hands through which the commodities have to pass before they finally reach the retailers and these as they deal only in wholesale transactions may for the sake of convenience be grouped together under the head of "wholesalers." There are at the end of this chain of traders the retailers who have direct dealings with the consumers. Apart from these two classes of dealers, there is a third class to be taken into consideration and this is the Co-operative Consumers' Society. Though these institutions are not merchants

in the real sense of the term they are classed as 'dealers' for the purposes of this Act. The question of incidence and shifting of the tax together with allied problems will be considered in relation to each of these classes separately.

Wholesalers.—This type of dealers, it is learnt, feel no difficulty in shifting the tax on to the shoulders of their purchasers. As they deal in large lumps, the tax also comes to a good sum which is entered separately in the bill and collected from the purchasers. The same procedure is generally followed in the case of all kinds of commodities, both necessities and luxuries. While in the case of the former the procedure is generally and uniformly adopted by all the wholesalers, it is found that in the case of luxuries the practice is not so general. However, as the wholesale transactions in the case of commodities, especially in the case of luxuries are in the hands of very few persons, the lack of competition enables them to dictate policies in such cases. The shifting of the tax also is rendered easy.

Retailers—The case of retailers is not so easy to deal with. From the point of view of the incidence of the tax there are nearly 2 classes of retailers. One class of retailers does not charge the tax on the purchasers, but pays it out of their profits. When the reason for their unique behaviour was sought, they replied that when the Government had asked them to pay (1 pie formerly and $\frac{1}{2}$ a pie in a rupee now) to relieve the drunkards, it is not just they should refuse such a small payment towards that noble object or should collect it from the purchasers back again, in the form of higher prices. But such types of dealers are very few. This brings out a point of great significance, which should not be overlooked. It only shows how the willingness or unwillingness of the merchant himself plays a great part in determining of the question of shifting of the tax. This factor has not been given the importance it deserves in the study of the incidence of taxes so far. The class of merchants mentioned above has brought into prominence this important factor and may be said to have been at the source of widening our knowledge of the question of incidence by their unique behaviour.

All others try to shift the tax to the consumers. While the tax is shifted on to their shoulders by those from above in most cases, the shifting of the tax to the consumers by these is rendered difficult by many factors. In the case of certain commodities where the retail prices have been steady for a fairly long time, the prices cannot be suddenly increased without much inconvenience to the traders. The

cases of soaps, pencils, blades, matches and such other things are examples of such classes of goods. Further the unit value of certain commodities is so low that the charging of the tax on each of them is rendered almost impossible. Thus wherever the prices of commodities have been constant or steady for a fairly long time and where the unit value of the articles is very low, the shifting of the tax is made difficult.

In respect of all commodities, where these factors are not prominent, the dealers try to collect the tax from the consumers. Nearly 3 types of procedure have been noticed. Some merchants charge the tax on the total value of transactions by mentioning the tax in the bill separately. But this method can be followed without loss only in cases where the total value of the transactions is above the minimum (of 1 rupee formerly and 2 rupees at present). In order to avoid the loss on transactions of less than this minimum amount and the inconvenience of charging the tax every time the sale is effected, other merchants adopt the practice of adding on the tax to the cost price of the articles. Another advantage claimed for this practice by its exponents and adherents is that as the tax is not specifically and separately mentioned in the bill, the consumers return with the impression that they have not been taxed, and this idea creates in them an attraction for such shops. At the same time, these merchants complain that this method also has not been thoroughly successful in view of the difficulty of adding the tax to the cost of the purchases of very small quantities of goods, running to only a few annas. The lack of understanding amongst the retail merchants has also been responsible to a certain extent in defeating the attempts of some to raise the retail prices of the commodities by more than the amount of the tax. The difficulty in such cases could only be over-come by adding one pie which is the smallest sub-multiple of the Rupee, but this action could not be resorted to on account of the severe competition amongst the merchants.

These difficulties could completely be got over if there is perfect understanding amongst the retailers of this Presidency as in the States of America and if they copy the same devices with suitable and necessary modifications as those employed in the American States. The American retailers feeling these difficulties have come together and employ various devices which enable them to pass only the exact amount of the tax without any difficulty. Two of these devices* may be noted here.

* For more details as regards their advantages and disadvantages, etc., see *Sales Tax in American States* by R. M. Haig and C. Shoup, pp. 33-37.

1. *The use of Fractional cent devices.*—"The second group of plans for shifting involves the use of *fractional cent devices* Under a 3% tax, for instance, a consumer purchasing a 10 cent article would pay 11 cents and receive from the merchant a coupon, or metal slug, worth seven-tenths of a cent, thus allowing for exact payment of the tax. The worth of the coupon or slug would lie in the fact that it would be used in future purchases as a means of paying the tax charge; in some plans it was redeemable in merchandise, or even in cash, at the store where it was received or at some local trade association office devices such as this have been used to some extent in Illinois and in Michigan."
2. *The Use of Coupon books.*—"A third device whereby shifting would be made more certain has been devised by the Ohio Retail Merchants Association. Under this plan, coupon books, would be printed by the State, the coupons being in denominations of one cent and up. A dollar book of coupons would be sold to the retailer for one cent under a 1% tax, 2 cents under a 2% tax and so on. The retailer would then resell the books to consumers at the same price. Carrying these books around with them, consumers would be required to hand over to the retailer, at the time of every purchase, coupons to the face value of the purchase. The State would thus collect the tax in advance, and the merchant would collect it from the consumer in the exact amount, no matter what the tax rate or how small the sale."

Another factor which has been noticed as influencing the shifting of the tax in this district is concerned with the attitude of the consumers. Some merchants have informed the writers that they are not taxing the consumers on account of the unwillingness and sometimes blunt refusal of their customers to pay the tax. This, some merchants say, has been solely responsible for not taxing the consumers. Thus many of the factors enumerated above have seriously impeded the task of shifting the tax. It is not correct therefore to say without any qualifications that the incidence is on the consumer, and that every individual is taxed on his purchases. Perhaps such a statement might have been true in the first few months when the Act came into force. Many merchants confess they had taken all steps to shift

the tax during the first few months of its working even at times incurring the displeasure of their regular customers. But later on, when some of them began to pay the tax out of their profits, the difficulties of others have become rather magnified and the severe competition amongst them has nullified the attempts of some to shift the tax.

Co-operative Societies.—Even among the co-operative societies there is no uniformity of procedure with regard to the shifting of the tax. There are as many practices current among them as amongst the merchants. In Cuddalore itself, where there are two societies, they follow different policies. The Manjakuppam Society meets the tax out of the general profits it secures, while the Pudupalayam Stores adds the price to the cost price of the article. Many of the difficulties experienced by the merchants have also been felt by them.

Thus, on the whole, over the question of incidence and shifting a definite and categorical answer cannot be given. One thing is sure, that the merchants, that is retailers, are not successful in passing the whole tax on all goods to all consumers uniformly. They try to pass on the tax wherever and whenever possible but when they encounter difficulties abstain from persisting. Sometimes the whole tax or even more than the amount of the tax is passed on to certain customers on certain commodities; while in other cases the merchants bear the whole or part of the tax as the case may be. They have to adjust their policy according to the nature of their customers. Thus while a definite conclusion would be impossible, and if made would be far from realities, these points stated above would serve to bring to the minds of the reader an idea of the difficulties encountered in the effort to shift the tax on to the consumers.

The above statements may leave the impression in the minds of the readers that, as the merchants are not generally or in many cases successful in passing on the tax to all consumers, the tax may not cause a substantial rise in price. But it was pointed out when the Act was on the anvil of the legislature that though the whole tax may not be shifted as the commodities change hands many times—about which nothing definite was known—even a partial shifting of the tax may ultimately lead to a substantial rise in price. An effort has been made during the course of the enquiry to learn how many times each class of commodity changes hands till they reach the consumer and the results are tabulated below:—

Sales Tax is levied in respect of each class of commodity, the number of times noted against each of them.

1. Groceries	3 to 4	1. Cashew	2
2. Shop articles	4	2. Leaf Tobacco	2 to 3
3. Hardware	2 to 3	3. Groundnut	2 to 3
4. Clothing	3 to 4		
5. Silver and gold articles	1 to 2		
6. Edible Oils	2 to 3		
7. Paddy, rice grams and Cereals	3		
8. Kerosene Oil	2		

From this it could be inferred that the belief that the commodities would be changing hands 6 to 8 times before they reach the consumer is exaggerated. In many of the cases noted above, the number of times the commodities change hands are only 2 which is indispensable in the present structure of business organisation and it is therefore not likely that the cumulative tax would be causing a heavy or perceptible rise in price.

Section 15

EFFECT ON BUSINESS TURNOVER

(A) *Merchants*

This is an important question of the enquiry for the correct study of which the details are difficult to procure. An attempt to compare the turnover of different types of business during the past 2 or 3 half year periods as has been done in the case of co-operative societies has not been successful, mainly because the data are not available. It must be pointed out, that most of the merchants are accustomed to keeping accounts only for the year as a whole and not month-wise or even half yearly. Certain merchants who pay income tax and for that purpose maintain half yearly accounts to facilitate them, are unwilling to give any figures. Any kind of appeal fails to convince them of the purpose for which it is required. Thus in the face of these difficulties, the problem has to be left unsolved.

(B) *Sales Tax and Consumers' Co-operative Societies.*

The fear entertained by some that the Co-operative Societies would be robbed of much of their business because of the competition from tax-free retailers seems to be exaggerated. This fear, it needs to be pointed out, is based on the belief that the co-operative societies generally charge the tax on their purchasers, that the tax-free retailer has no necessity to charge the tax and that because of this, there is a difference in prices which acts to the disadvantage of the consumers' society. Firstly, it is to be noted that all societies do not charge the tax on the consumers but only some; while others meet it out of their profits. Secondly, as the co-operative societies charge only very small percentage of profits on their transactions which is much lower than that charged by the merchants, the prices of commodities sold by the society are decidedly less than the prices fixed by the tax-free retailers, (who have to charge higher prices as they lack the advantages of large scale buying which the societies enjoy) and even an addition of the tax to the price would not create any difference in prices which would be prejudicial to the prosperity of the society. To illustrate the points put forth, the following case may be noted. The prices of articles sold by the Pudukkottai Stores (which charges the tax on consumers) has been found to be lower or the same but never higher than the prices charged for the same articles of the same quality by dealers and tax free retailers in the neighbourhood. A comparison of the prices of a few articles preva-

lent during the last week of October will illustrate the truth of the statement.

Articles.*	Unit of measure	Price charged by	Prices charged by
		Co-operative Society.	dealers & tax free retailers.
		Rs. A P.	Rs. A. P.
1. Sirumani rice	.. per bag	10 11 0	10 14 0
2 Ghee	.. one seer	0 3 10	0 4 0
3 Gram (Bengal, broken)	.. per measure	0 3 10	0 4 0
4. Camphor	.. per palam	0 3 3	0 3 6
5. Chillies	.. per thooku	0 15 0	1 0 0

* Care has been taken to include only those commodities that have been bought in October by the Society and not those commodities that the Society had in stock.

This table clearly indicates the tendency in which the prices are moving in the two cases.

A look into the turnover of the two societies in Cuddalore, the Manjakuppam and Pudupalayam Stores, during the last 3 half years from October to March would also lead to the conclusion that there has been no setback in their business.

Turnover in Rupees.

Manjakuppam Stores.				Pudupalayam Stores.		
1937-38	1938-39.	1939-40		1937-38.	1938-39.	1939-40.
2002	2416	2418	October	2085	2846	2387
1991	2355	2377	November	2379	2348	2542
1880	2583	2285	December	2656	2667	2717
1781	2223	2626	January	2399	2584	2718
1913	2002	2320	February	2371	2034	2717
1699	2268	2258	March	2471	2197	2810
11266	13847	14284	Total	14361	14676	15891
1878	2308	2381	Average	2394	2446	2649

The table clearly shows that these societies have been keeping up their tendency of increasing trade even in the half year of 1939-40, in spite of the sales tax; and the fact that they have maintained the increase in spite of the restraint they had put upon themselves by not selling to

non-members during the half year in 1939-40, only goes to strengthen the argument. Hence in the opinion of the writers it is not true or correct to say that the societies would be undercut in the matter of prices by the tax free retailer and that they would consequently lose their business, which would hamper the progress of the movement itself. Such a tendency has not been evinced so far and if the past is to be a guide to the future, it can confidently be asserted, that there would be no occasions for the Societies to suffer.

* These observations are strengthened by Appendix (A) in which the turnovers of a few more co-operative consumers' societies are studied. The condition of the premier consumer society of the Presidency has been dealt with. The total turnover of the Triplicane Urban Co-operative Society and of a number of its various branches have been tabulated to facilitate a comparison of their turnover during the past 3 half year periods from October to March. But before comparing the figures as such, certain allowances have to be made. Firstly the sudden and quick rise in price during the months from September 1939, has rather shown a sudden increase in turnover. It is generally considered by merchants that, on the whole, taking into consideration all commodities, there has been only a rise of about 1 anna in the rupee in their turnover because of this rise in price. Hence the effect of this factor will have to be considered while comparing the figures given in Appendix. Another factor will have to be taken into account which is also an effect of the war. The war which has brought about a distinct difference in the prices of articles sold by the co-operative societies and merchants, has resulted in such a heavy rush for goods at the co-operative societies, to combat which they were forced to resort, to a kind of rationing of goods. This it is feared, has sometimes even acted as a check over genuine demand of goods for consumption. Thus the possibility of any loss in turnover on this account must also be borne in mind.

Anyhow it must be admitted, that though the sales tax has not actually brought about a decline in the turnover of consumers' co-operative societies, as has been feared by some, it has had some effect on the development of the society. It has been learnt that the Triplicane Urban Co-operative Society which had an idea of undertaking the sale of piecegoods of different kinds and articles like sandals and shoes, has been obliged to partially suspend such plans, because of the sales tax. If the same is the effect in the case of other societies situated elsewhere in the Presidency, it seems necessary that such new ventures of Co-operative Societies should receive the sympathetic consideration of the Government and result in some form of help which would induce such societies to get over their fear and execute their plans well.

Section 16

EFFECT OF MIDDLEMEN

There are really two classes of middlemen, one doing business on behalf of others and another class doing the intermediary work on their own accounts. The position, of the first class of intermediaries has been safeguarded in the Act under the head of 'agents.' It is only with regard to the second class of intermediaries that grave doubts were entertained; it was thought that because of this cumulative tax they would be forced out of existence.

To examine whether such fears have materialised, it is necessary to consider this class of middlemen in two separate groups, as such a method would help the analysis. Middlemen are found both in the purchasing trade and in the selling trade of a country, the effect of the tax will be considered on each of them separately.

There are large numbers of middlemen dealing in raw produce, purchasing them in the villages and selling them to exporters. The case of such men dealing in groundnut in Cuddalore has come under the observation of the writers and their condition will be stated at length in the hope that it would be representative of that group of men where the same conditions prevail.

The marketing of groundnut is carried on in Cuddalore by the exporting firms, their shandies and agencies, middlemen, co-operative sale societies and groundnut marketing committee. Before the establishment of the co-operative sales societies and the marketing committee, the middlemen were doing a greater part of the business and even now they are responsible for a considerable amount of trade. Of these some are wealthy and big merchants who purchase and stock commodities to sell at times of favourable prices. But such persons are very few in numbers; the greater part of the middlemen are those with very low means who make their living by making small profits on their daily transactions.

The price of groundnut is fixed by the foreign market demand for port delivery. Whenever the middlemen buy the commodity they have to pay the tax and again when bigger middlemen buy it they have to pay the tax once more. In these cases, as the middlemen's selling price of groundnut has been already fixed, the middlemen try to deduct the tax they have to pay from the price paid to producers. But this course is objected to by the Marketing Committee and hence the middlemen have

no other course except to make allowance for the tax by quoting reduced prices without showing the tax outwardly. Even this they could not do, because of the competition of exporters, their agents, and marketing committees. As the commodities bought through these agencies have to pay the tax only once, these institutions succeed in defeating the purpose of the middlemen, by quoting higher prices. Thus the middlemen are driven to bear the tax themselves, without shifting the tax on to the shoulders of producers. While the bigger and richer middlemen are able to bear the burden of the tax by meeting it out from their profits earned from the fluctuations in prices on the sale of their stored goods, the condition and existence of the smaller middlemen have become almost precarious. They are unable to bear the burden of the tax as the profits they realise from their sales are very meagre. Their existence today depends upon how they can dupe the illiterate and innocent growers who come to them or on dealings with growers who have taken loans from them and therefore bound to come to them. When the marketing committees grow more popular and by means of efficient propaganda shut out this only way of shifting of the burden of the tax by the middlemen, it is feared that many of them would be thrown out of employment. The activities of Marketing Committees and the operation of the Sales Tax have thus greatly affected the middlemen dealing in groundnut.

The same would be the case with middlemen dealing in other commodities also. It can be generalised that wherever there are competing agencies with middlemen in the buying market who could pay higher prices, and wherever chances for deceiving producers, in the matter of weights and measures and other ways are restricted, the position of the middlemen becomes rather critical. But the absence of any such competing agencies and marketing committees in the case of other commodities has rendered their condition in these trades easier for the present. The paddy brokers of Chidambaram say that they feel no difficulty in passing on the tax to the producers.

The condition of middlemen in the selling trade now remains to be examined. Compared to the previous class, their condition is better. Most of them, as they deal in wholesale transactions feel no difficulty in shifting the tax on to the purchasers. The concessions they show, in the matter of allowing credit and instalment system of payment, induce their customers to stick to them, and even lower prices quoted by the manufacturers and wholesalers has had no effect in diminishing their trade. Shifting of the tax has been made easier for these middlemen during the past 7 or 8 months by the rising of prices after the outbreak of the war.

Section 17

DISINTEGRATION OF BUSINESS

It was a very widespread fear prevalent at the time of the passing of the Act that there would be a keen tendency amongst businessmen to split up their businesses in order to escape taxation or derive some advantage. Hence in the course of field work special attention was devoted to elicit as much of information as possible on this question, but all the answers secured after a detailed examination had only revealed the fact that no such tendency is visible, at any rate in this district. And convincing reasons too for this opinion have been gathered, which may be set down below.

Any practically minded businessman would consider first the probable loss of business and the consequent decrease in profit and then only the gain in taxation before launching a scheme of dividing his business. The smallest unit to which the business could be split up to escape taxation, depends upon the minimum exemption level set up in the Act. As under the present Act, Rs. 10,000 which is the minimum fixed, is very low, it is not likely to induce businessmen to split up their businesses. Nobody having a good business would like to set up small and petty shops with a turnover of less than Rs. 30 per day. The fixing of such a low minimum has really conferred a benefit and may be said to have acted as a brake, if there was a move in the direction of splitting up of business.

Again the setting up of the slab rate close to the percentage rate has also weighed much with the merchants in arresting this tendency. As the following calculations would show, persons having business with a turnover of more than 20,000 do not stand to gain, nay, rather stand to lose, by splitting up their businesses into small ones, all assessable under the slab rate, or into one or two in the slab rate and the rest under percentage rate.

In the case of the first line of division, splitting all into concerns coming under slab rate, the resulting loss would be in each case as follows :—*

* In this and the following tables the turnover of the business units in the slab rate is assumed to be just below Rs. 20,000 ; i.e. 18,000 allowing for business fluctuations : the amount of the tax is calculated on the basis of the revised rates : i.e., Rs. 4 per month for firms under slab rate and $\frac{1}{4}\%$ for those above slab rate.

S.T.—11.

Turnover of firms.	% tax.	Maximum No. of firms under slab rate.	Tax under slab rate.	Difference.
30,000	75	2	48×2 : 96	—21
40,000	100	2	48×2 : 96	+ 4
50,000	125	3	48×3 : 144	—19
60,000	150	3	48×3 : 144	+ 6
70,000	175	4	48×4 : 192	—17

Firms having a turnover over 70,000 are not likely to be divided into small ones under the slab rate all having a turnover of less than 20,000, as such a procedure would only result in a heavy loss of business. While in such cases it is not considered beneficial to adopt any such practices in others the results in difference are not encouraging. Whereas the negative results denoting loss in each of the three cases are clearly about Rs. 15 to Rs. 20 in the two cases where there is a gain it is so meagre that it would not induce merchants to undergo all pain and trouble involved in the course of division and in the management of small concerns.

Thus while possibilities along this line of division are ruled out of question, sufficient gain would not accrue even by the second mode of division that is of having two concerns under slab rate and one on percentage basis, as the following figures would show:—

Turnover.	Rate %.	Slab rate.	% rate.	Total of 3 & 4.	Difference between 2 & 5.
60,000	150	96	60	156	—6
70,000	175	96	85	181	—6
80,000	200	96	110	206	—6
90,000	225	96	135	231	—6

In all the cases this kind of division involves only a loss.

Only the last method of division remains to be examined, that is, with one concern under slab rate and the rest on percentage basis. Even here there is no gain by dividing businesses but only loss as the figures would show.

30,000	75	48×2		96	—21
40,000	100	48	55	103	— 3
50,000	125	48	80	128	— 3
60,000	150	48	105	153	— 3
70,000	175	48	130	178	— 3
80,000	200	48	155	203	— 3
90,000	225	48	180	228	— 3

Consolidating these results in the following manner it is clear to say that in all the 3 possible ways there is no material advantage to be gained by the merchants by splitting up their business. When mer-

Cases of turnover.	Possible gain (+) or loss (—) by splitting up of business into concerns.		
	concerns all under slab rate.	2 under slab rate & rest on % basis.	1 on slab rate and rest on % basis.
30,000	—21		—21
40,000	+4		— 3
50,000	—19		— 3
60,000	+6	—6	— 3
70,000	—17	—6	— 3
80,000		—6	— 3
90,000		—6	— 3

chants are asked why they do not entertain any idea to split their business, to gain some advantage in the amount paid as tax, they point out by working in the manner shown above of how they only stand to lose by such a procedure. When further questioned, why they do not wish to divide their business into small ones, each with a turnover of less than 10,000 to escape taxation altogether, they reply that such a course of action would only result in a loss of business and profit for them; besides, such small concerns, in view of the separate administrative charges that would have to be incurred would be found to be not very remunerative. Conversation with merchants has thus revealed the fact that they are not therefore willing to split up their businesses into smaller ones, either to gain any advantage in the amount of tax paid or to escape taxation altogether.

Besides these factors, the nature of the business also greatly influences the decision of the owners. Not all business concerns could be

easily split up. It is only certain types of businesses that can be easily split up, while in other cases it is not possible to do so, without incurring any material loss in the process of division itself. As a general rule, it can be stated that in business concerns where much fixed capital in the form of buildings and machinery has been sunk, the process is not easy of accomplishment and, even when accomplished, it is done only at substantial loss. Only in cases, where the greater part of capital invested is circulating capital, that the division is easy and could be indulged in without much loss. In such cases the probable gain must be sufficiently high to compensate for the difficulties attendant on the division and administration of smaller concerns. Such inducements being rendered nil or meagre by the framing of the Act, a tendency in that direction has not been noticeable in this district.

But it would be too much to say at the same time that the sales tax has had no effect at all on the merchants in this direction. Tendencies for merchants to do business under 'kashtakottu' or 'vasakkattu' form have increased with the hope of escaping taxation. As these types of business are also found out and taxed in the name of the principal dealer, it is expected that the weakness the merchants evince in this direction would soon be put a stop to.

Section 18

COST OF ADMINISTRATION

It has been the aim of the Government of Madras to keep the cost of administration of the tax as low as possible, and it is with a view to achieve that end that they seem to have minimised the appointment of special bill-collectors on a large scale and entrusted the work of collection to the village headmen wherever it is possible. It has already been pointed out how this system of administration of the tax has led to indifference on the part of the village headmen and much arrears in collection.

It needs to be stated that it has not been possible to calculate the cost of administration of the tax for the Presidency as a whole. Various difficulties, theoretical and practical have been experienced. Until some definiteness is reached as to what items are to be included under cost of administration of any particular tax, the former difficulties seem to be more difficult to be got over than the latter ones. Doubtful cases such as whether the portion of salaries of the judicial authorities hearing cases brought to them, and the expenses incurred by Government in conducting cases on their behalf relating to the Act are to be added to the administrative cost have to be cleared. Other doubtful points of a similar nature are also found, but they need not be enumerated. The practical difficulties arise out of a system of administration of the tax in which the Commercial Tax Department is entrusted with the administration of a few taxes other than the Sales Tax. The administration of Entertainments Tax Act and the Tobacco (Taxation of Sales and Licensing) Act are also left to it. As such it has been found very difficult to divide the total expenditure of the department among the various taxes. Certain items of expenditure with joint costs could not be separated. Whether the cost is to be allocated among them in the proportion of yield, or total collection of taxes, or in respect of time spent on each tax by the tax authorities or any other method is a point of grave doubt. It will be evident on the face of these suggestions that while in some methods the process of allocation could be carried out without much difficulty, it is not so in other methods. Under such circumstances until some definite policy is laid down with a view to solving the difficulties mentioned above, an attempt to discover the cost of administration of the tax must be postponed.

However it may not be out of place to add here a few words about the cost of the tax in other countries that have adopted it. Materials

about this point are meagre. But in a recent book dealing with the sales tax in American States the authors have published the materials made available by the Research staff of the Interstate Commission on Conflicting Taxation. The sales taxes are classified on the basis of the basic retail rate of the tax. And the costs of administering the State Sales Taxes, covering for the most part the years 1933 and 1934 are tabulated as follows: *

*Estimated direct cost of administering Gross Sales Taxes
in States for which Data are available.***

		Annual Revenue Collections (In dollars)	Approximate Annual cost of Adminis- tration. (In dollars)	Cost. (in % of revenue)
<i>Basic retail rate, 3%</i>				
Kentucky	..	7,985,208	558,965	7
Michigan	..	34,871,949	414,327	1 187
North Carolina	..	6,657,022	133,140	2
Ohio	..	43,264,000	1,025,500	2 37
<i>Basic retail rate, 2%—2 9%</i>				
California	..	50,378,604	856,436	1.7
Illinois	..	36,886,116	737,722	2
Iowa	..	10,625,128	318,754	3
Mississippi	..	2,909,701	93,110	3 2
New Mexico	..	1,709,013	51,270	3
Utah	..	1,871,514	30,000	2
West Virginia	.	20,031,900	Data lacking	
<i>Basic retail rate, 1%—1 9%</i>				
Arizona	..	1,354,360	54,174	4
Indiana	..	11,355,499	283,887	2 5
Oklahoma	..	4,229,724	126,892	3
South Dakota	..	3,414,191	136,568	4
New York	..	25,869,504	388,043	1 5
Pennsylvania	..	18,243,892	Data lacking but cost has been high	
<i>Basic retail rate, under 1%</i>				
Missouri	..	4,155,444	Data lacking	
Washington	..	5,036,467	225,000	4
Georgia	..	1,212,000	36,360	3

* *Vide* Twentieth Century Fund · "Studies in Current Tax Problem," p. 127.

** Table from Sales Taxes: State vs. Federal, p. 10.

Certain broad generalisations to which the authors have come from these figures may be quoted. They remark:

“It appears to be generally true that a 3% tax can be administered for less than 2% of the revenue; a 2% tax can be administered for less than 3% of the revenue; and a 1% tax can on the average be collected for a little more than 3% of the revenue.”*

These figures and inferences therefrom only bring out the plain truth that the smaller the rate, the greater is the cost of administering the tax. In our province with a low rate and with a wide area to cover up, the cost of administering is likely to be high. The possible ways of minimising cost seem to lie only in checking evasion and securing greater co-ordination between the Commercial Tax Department and various other tax departments and other governmental, quasi-governmental and private bodies, with a view to avoiding duplication of work leading to unnecessary expenditure. Minimum expenditure with maximum efficiency alone can achieve good results.

*Quoted in “Studies in Current Tax Problems”: (Twentieth Century Fund), p. 128.

Section 19

GENERAL OBSERVATIONS.

Within the short period of working of the Act, it cannot be said without exaggeration that all the merchants in this locality have clearly understood the implications of the Act; it is too much to expect that they would have executed the duties that fall upon them as promptly and as punctually as may be imagined. Cases of negligence of work have been numerous and they would have been still greater had not the tax authorities taken upon themselves during the first few months the task of going about and informing the merchants of what they ought to do. It is said that in the beginning of the half year, that is, during October and the subsequent months, the assessing authorities themselves did a greater part of the filling up of forms of returns, on behalf of the taxpayers. In spite of the trouble taken by the authorities many merchants had defaulted in the submission of A returns and monthly returns (A₃) in respect of which they could not but be punished. One noticeable feature among such merchants had been that they always accepted their mistake and paid the fines without much grudging. When asked why they committed such mistakes especially when the Act had been explained to them and they had also been informed of the impending punishment in case of default, they pleaded ignorance. The real reason seems to be their intention to gain as much of time as possible for the payment of the tax, and when they realised that delay in submission of returns would facilitate the fulfilment of their object, they were only too quick to seize it.

While cases of failure in sending up of returns are not negligible, —about 7 for 6 months—cases of non-payment of taxes are also common. But the default of payment of taxes at the proper time, as in the previous case, is observed to have been greater in the case of smaller merchants, usually having a turnover of less than Rs. 40,000. As those with a turnover of above Rs. 40,000 are mostly income tax payers and are therefore accustomed to regular payment of taxes, they are not usually at default with regard to the payment of this tax. It is to be clearly emphasised here that the reason for the smaller merchants showing a tendency for default is to be found not in their incapacity or inability to pay the tax, but in the fact that they have not yet got into the habit of regularly paying the taxes. It is a regrettable fact to note that their payment of municipal and profession taxes has not in any way brought about a change in their habits and modes and instilled into them

any idea of punctuality and a sense of the duty they owe the state. But it is confidently hoped that with the march of time such a feeling would prevail upon the smaller merchants who would then become regular taxpayers.

Apart from these two weaknesses that the merchants have evinced, it is learnt, they have not shown any other case of wilful negligence, at least so far as this district is concerned. When especially an effort was made to know whether dealers have any inclination to submit incorrect accounts and they have attempted to violate the provisions of the Act it is learnt that such cases have been extremely rare. It is said that in the whole district with a total number of assesseees of about 800 only 2 cases have been compounded for such offences for the first 6 months. This is almost a negligible number.

In general it must be said, that so far as this district is concerned, the merchants have paid all attention they could to observe the Act. But there have been cases, where violations of the Act or rules were noticed, but they are only small compared to the total number of assesseees. It will not be too much to say, therefore, that the Act has been more often observed than violated.

A word might also be added here as regards the punishment awarded for the offences. It must be said to the credit of the tax authorities that they, knowing human weaknesses and limitations, have always been sympathetic to the merchants. Realising that the tax is a new one and that it would take some time for the merchants to attend to their duties in fulfilling the Act, in a routine way, they have always been generous to let off the defaulters with light fines. The fact that the compounding charges had not gone beyond Rs. 25 (in this district) though they had power to levy fines up to Rs. 1,000 shows how lenient they have been. In the greater number of cases compounded for offences here, the fines are said to range from Rs. 5 to Rs. 15. But it is expected that the merchants would not avail themselves of this tenderness on the part of the authorities to take any undue advantage. They have already realised that they would be taken to task severely for offences in future and are becoming more and more punctual in the proper execution of their duties.

APPENDICES.

A.

TURNOVER OF TRIPPLICANE URBAN CO-OPERATIVE SOCIETY AND SOME OF ITS BRANCHES

(In Rupees)

Months.	1937-38.	1938-39.	1939-40.
October	87,487	74,636	76,492
November	76,259	68,290	81,292
December	83,957	77,497	82,679
January	82,222	74,935	83,011
February	73,970	68,920	78,461
March	78,174	73,996	81,324
Total	482,069	438,274	483,259

Brodiess Road.			George Town II.			
1937-38.	1938-39.	1939-40.	Month.	1937-38	1938-39.	1939-40.
3322	2906	2672	October	3142	2551	2133
2762	2687	2868	November	2865	2203	2229
3132	3091	3407	December	3195	2621	2386
3148	3077	3197	January	2693	2299	2374
2824	3067	3286	February	2590	1886	2259
2941	3127	2976	March	2802	2025	2362
18129	17955	18406	Total	17287	13585	13743

Nungambakkam.			Thyagarayanagar.			
1937-38	1938-39.	1939-40.	Month.	1937-38.	1938-39.	1939-40.
5532	5069	4767	October	5179	3805	5369
4728	4514	5519	November	4512	3682	6055
4720	4814	4871	December	4968	4392	6362
5124	4784	5514	January	4900	4238	6569
4967	4433	5118	February	4288	3995	6193
4755	4866	5273	March	4473	4513	6449
29826	28480	31062	Total	28320	24625	36997

Car Street.				Laxmipuram.		
1937-38.	1938-39	1939-40.	Month	1937-38.	1938-39.	1939-40.
3410	2908	3165	October	1638	2510	2586
3246	2725	3571	November	1612	2113	2330
3491	3140	3547	December	1869	2326	2378
3369	2918	3731	January	1802	2399	2448
3033	2794	3471	February	1843	2288	2297
3343	3127	3529	March	2154	2532	2434
19892	17612	21014	Total	10918	14168	14473

Royapettah.				Madhavapuram.		
1937-38.	1938-39	1939-40.	Month.	1937-38.	1938-39.	1939-40.
4826	3826	3926	October	4752	3915	4491
4126	3291	4033	November	4003	3604	4499
4795	3972	4163	December	4437	4101	4940
4798	3656	4705	January	4274	4063	4500
4043	3350	3996	February	4025	3473	4299
4222	3505	4724	March	4303	3993	4613
26810	21600	25547	Total	25794	23149	27342

Triplicane.				Mylapore II.		
1937-38.	1938-39.	1939-40.	Month.	1937-38.	1938-39.	1939-40.
5626	5169	5097	October	4997	3985	3921
4959	4525	5528	November	3932	3223	3996
4920	4949	5319	December	4458	3587	4050
5374	5164	5687	January	4227	3611	3901
4976	4827	5471	February	3715	3326	3566
5289	4963	5399	March	4114	3468	3486
31144	29597	32501	Total	25443	21200	22920

B

GENERAL NATIONAL-GOVERNMENT SALES TAXES IN VARIOUS COUNTRIES *

Section a.—*British Empire.*

Country.	Title of tax.	Law establishing tax.	Payment of tax	Basis of tax.	Measure of tax.	Rates.	Disposition.	Exemptions.
Australia	Producer's sales tax	Law of August, 18, 1930.	Monthly	Sale of commodities by producers and importers	Total sales and imports	5% ..	To National government	Exporting, sales of agricultural foods, many articles used in the extractive industries, and specified articles.
Canada	Sales tax	Law of July, 1, 1920.	Monthly	Sales of producers, manufacturers and importers	Total sales completed	6% .. Annual licence \$ 2 00	To National government	Exporting, agriculture, sales of essential foods, fuels, raw materials equipment used in the extractive industries, etc.
New Zealand	Sales tax	Law of March 9, 1933.	Monthly	Sales of whole salers and manufacturing retailers.	..	5% ..	To National government	Exporting, agriculture, many foods machinery and implements and many other specified articles.

* Adapted from "The Tax Systems of the World"—5th Edition, page 266

Section b.—Europe

Country	Title of tax	Law establishing tax	Payment of tax.	Basis of tax.	Measure of tax	Rates.	Disposition.	Exemptions.
Austria	Turnover tax	Law of April 1, 1923.	Annual ²	Total business turnover	Total Sales	Rates generally 2% to 8% but vary with classes of commodities	60% to National government & 40% to local government	Exporting.
Belgium	Transfer tax	Law of August, 28, 1921.	Monthly	Sales of commodities except at retail and for use in business	All business transactions	Usual rate 2-5% with variations according to commodities	To National government	Exporting, government purchases, and sales of prime necessities.
Danzig	Turnover tax	Law of July, 7, 1922	Annual	Amount of receipts	Completed sales	3% ordinary rate, 1% on retailing, 1-5% on agriculture and 10% on restaurants.	40% to State and 60% to Local Governments	Exporting and Importing.
France	Turnover tax	Law of June 25, 1920	Monthly for larger and annually for smaller taxpayers.	Total business turnover	Total completed sales	2% on ordinary articles, 3% to 16% on luxuries and various rates on special industries	90% to National and 10% to local governments.	Exporting, agriculture, professions, government enterprise, transactions liable for special taxation.
Germany	Turnover tax	Law of December 24, 1919.	Annual	Gross income of business and professions	Gross income	2%	70% to National and 30% to State and local governments	Exporting, government enterprise transactions liable for special taxation, and a few foods
Hungary	Turnover tax	Law of 1921	Annual	Gross receipts	Delivery of sales	3% basis on ordinary articles, 10%—25% on luxuries, various rates on special industries.	10%—25% to local governments & rest to National government.	Exporting and essentials foods

2 As far as may be ascertained the information is not altogether conclusive.

Section b.—Europe (Contd.)

Country	Title of tax	Law establishing tax	Payment of tax	Basis of tax	Measure of tax	Rates	Disposition	Exemptions
Italy	Transfer tax	Law of November 24, 1919.	Monthly	Sales of commodities for use in business except at retail	Value of goods transferred	2.5% ..	To National government	Exporting, government industry, sales of essential foods
Luxemburg	Turnover tax	Law of July, 21, 1922.	Quarterly	Value of sales except at retail	Total business	1% on ordinary sales and 5%—10% on luxuries	8% to communes and rest to State	Exporting.
Poland	Industrial tax and licence duty	Law of July, 15, 1925	Monthly for larger and Quarterly for smaller taxpayers.	Gross income of business and professions	Gross sales and privilege of doing business	Industrial tax ½% to 5% and licence varies	Local governments may add 25% to industrial tax and 30% to licence duty	Exporting, state industries, utilities, railways, non-profit associations of workers, certain raw materials and semi-manufactured articles
Rumania	Turnover tax	Law of 1921	Single	Total turnover	Value of sales	1 1% to 2 5% on ordinary sales and various rates on specified articles and luxuries	To National government	Certain Commodities
Soviet Russia	Industrial tax and licence duty	Law of July, 26, 1921	In 5 instalments through year	Total annual turnover	Total annual turnover	Vary according to classification	Divided between National and local governments	.....

3. Data unavailable.

Section c.—Central and South America and Miscellaneous countries

Country.	Title of tax.	Law establishing tax	Payment of tax	Basis of tax	Measure of tax.	Rates.	Disposition.	Exemptions
Argentina	Transactions tax	Law of October, 15, 1931	Quarterly	Commercial receipts	Total Sales	0.3%	To National government	Public Utilities, agricultural products, cultural retailers of certain foods, and magazines
Bolivia	Sales Tax	Law of December 12, 1923	Annual	Sales of merchants and manufacturers	Gross Sales	0.5%	3 ..	Exporting and importing in general, sales of mines, farmer, etc.
Brazil	General Stamp Tax	Law of 1924	3	Sales of commodities at wholesale and retail	All transactions	0.5%, 1% and 2%	To National government	Agriculture and the professions
Ecuador	Sales tax	Law of 1923	Single	Gross sales of commerce and industry	Gross Sales	1%	To National government	Exporting and Act subsidiary to selling
Philippine Islands	Sales Tax	Law of 1904	Quarterly	Gross sales of merchants and manufacturers and gross receipts of printers, publishers, contractors, public utilities, laundries etc.	Total sales or receipts	1%, 1.5%	About 10% to insular government and remainder to local governments	Agriculture, small vendors and producers, and (specially taxed articles)
Puerto Rico	Sales Tax	Law of August, 20, 1925	Monthly	Gross sales of Merchants	Total daily sales	2%	To insular government	Foodstuffs, gasoline, electricity, real property, sales of farm products, fertilizer, etc.

3 Data unavailable.

C

PERCENTAGE OF REVENUES DERIVED FROM GENERAL SALES TAX IN VARIOUS COUNTRIES *

Country	1921.	1922	1923	1924	1925	1926.	1927.	1928.	
Austria	a.	—	6.5	17.4	16.9	18.0	—	—	a. Based on budget estimates in 1926.
Belgium	b.	—	32.2	18.2	16.5	17.2	28.4	26.9	b.
Brazil	c.	—	—	8.4	8.4	5.0	—	—	c. " "
Canada	d.	8.8	16.1	22.6	30.6	19.3	20.5	16.8	d. Based on Revenue collections.
Czechoslovakia	e.	—	11.7	15.7	17.2	15.9	17.6	18.5	e. Based on budget estimates for years 1923-28.
France	f.	8.2	9.3	12.7	13.3	18.1	19.9	20.1	f. Based on budget estimates for 1925
Germany	g.	7.7	14.3	8.9	18.3	10.7	9.7	10.3	g. Based on budget estimates for 1923
Hungary	h.	—	—	23.6	16.7	15.7	14.6	13.7	h. Data show % total revenues
Italy	i.	0.3	0.9	1.3	2.8	3.4	3.0	—	i. Based on revenue collections
Portugal	j.	—	—	—	8.0	4.8	6.5	5.4	j. Based on provincial receipts
Poland	k.	—	—	9.9	15.0	13.0	13.3	13.5	k. Data show % of total taxes
Philippines	l.	26.4	27.1	32.7	36.6	35.5	34.1	31.6	l. Data show % of internal revenue receipts
Roumania	m.	—	—	4.9	5.0	4.2	4.9	5.8	m. Based on budget estimates
Russia	n.	—	—	—	—	11.7	12.5	26.3	n. Based on budget for years 1926 and 1928
West Virginia	o.	—	20.3	23.6	23.5	18.4	23.8	20.4	o. Data show % of total taxes for state purposes.

* Table taken from "Readings in Public Finance and Taxation"; Mills and Starr

D

SUMMARY OF THE MEMORANDUM OF THE DEPUTATION TO HIS
EXCELLENCY THE GOVERNOR OF MADRAS ¹

A Deputation representing the Chamber* and its affiliated bodies waited on H. E. the Governor of Madras at Government House, on the 12th Feb. 1940. The object of the deputation was to make representations to His Excellency on the subject of the Madras General Sales Tax Act and of certain details regarding its application.

* * * * *

The deputation pointed out that the Act had been worked for more than four months now and during these months many of the fears expressed by commercial opinion in the province with regard to the repercussions of this Act had been justified. There had been a marked flight of business, so far as the wholesale trade was concerned, to places beyond this province. The trading community had been subjected to distress and annoyance by the insistence on returns, accounts and explanations arising out of the administration of the Act, and the consequent necessity to employ account clerks, was found to be a severe strain on small traders who worked on extremely low margins of profit. Other factors brought in by the present unsettled condition of world trade together with the price increases brought upon by the sales tax would, it was feared, accentuate the regressive tendency that a sales tax had on consumption generally.

The popular Government which introduced this tax justified its imposition on the ground that it was needed to replace the loss in excise revenue and that the improvement in the economic condition of the districts which went dry would result in a stimulation of trade in the dry districts and would more than offset the adverse effects of the tax which the commercial community would ordinarily experience. In fact that was the only justification that was urged for the imposition of tax so universally unpopular both with trade and commerce. But in view of the fact that His Excellency's Government would not propose to make a general extension of the dry area in the province so as to absorb the entire revenue from this tax, the justification for continuance of this tax did not seem to exist. The deputation would, therefore request His Excellency to suspend the operation of this tax forthwith.

The deputation also urged that Indent Agents should not be brought within the scope of Explanation (2) to Section 2(b) of the Act and pleaded that oil crushing industry should be exempted from being taxed twice, namely both on purchase turnover of groundnuts as well as on the sales turnover of oil and cake.

The Indian Chamber of Commerce, Tuticorin, also submitted a memorandum to His Excellency pointing out some of the difficulties felt by commission merchants and canvassing agents in the application and administration of the Sales Tax. It referred to the objections raised by the Commercial Officers in regard to the mode of trade and accounting by commission merchants and stated that any change in the present system which had been approved by the Income-tax Department would mean complete dislocation of trade and wipe out many middlemen.

1. The Southern India Chamber of Commerce, Vol. III, No. 2; February 1940; p. 49.

* The Southern India Chamber of Commerce.

E

REPLY OF THE GOVERNMENT OF MADRAS TO THE MEMORANDUM *

The following letter dated 6th March 1940 has been received from the Government of Madras in reply to the Memorandum of the Deputation of 12th February 1940 to H. E. the Governor regarding the Madras General Sales Tax.—

“I am directed to inform you that H. E. the Governor has carefully considered the representations regarding the working of the Madras General Sales Tax Act, 1939, made by the deputation orally and in their written memorandum.

“As regards the request that the operation of the Act should be suspended, I am to invite attention to the Press Communiqué No 27, dated 4th March 1940, on the Budget Estimates for 1940-41. As explained therein, the Sales Tax and the other new taxes are necessary in order to finance Prohibition in the four districts in which it is in operation. The Sales Tax is, however, to be reduced for the year 1940-41 from one half of one percent to one quarter of one percent in the case of the tax on turnovers exceeding Rs 20,000 and from Rs 5 to Rs. 4 per mensem on turnover between Rs. 10,000 and Rs. 20,000 in order to limit the total yield from the new taxes to the amount actually necessary to finance Prohibition during 1940-41.

“As regards the request that ‘indent’ agents should not be brought within explanation (2) to section 2(b) of the General Sales Tax Act, I am directed to state that the decision of the Government will be communicated to the Chamber in due course.

“With reference to the complaint that commission agents who receive a commission from both the buyer and the seller, are being taxed as dealers, I am to state that there appears to be some misunderstanding of the orders issued by the Commissioner of Commercial Taxes in this respect and that the Government have the whole question under examination.

Another representation made at the deputation was that the officers of the Commercial Tax Department frequently call for and detain account books which are required by the dealers in their places of business for making day-to-day entries. I am directed to state that the Commissioner of Commercial Taxes has recently issued instructions that accounts are not to be called for as a routine matter for the purpose of checking every return, that inspection of a dealer's accounts should only be made occasionally and as far as possible at the premises of the dealers and that the accounts of dealers will normally be summoned only in cases where there is reason to suppose that returns are incorrect or incomplete.

“As regards the rebate on finished articles of industrial manufacture under Section 7 of the Act, I am to invite attention to G O No 3434, Revenue dated 21st December 1939, a copy of which has already been forwarded to the Chamber in which certain additional articles have been listed for the concession. In preparing these lists the Government have followed the principle of selecting

* The Southern India Chamber of Commerce, Vol. III, No. 3; March 1940; p. 67.

those finished articles of industrial manufacture which are manufactured by employers of labour on an appreciable scale in this Province and of which the export is not inconsiderable.

"It was also represented that the accommodation and furniture in certain Commercial Tax offices were inadequate and particular reference was made by Sri. Dhanushkodi Nadar of Tuticorin to the office at Tuticorin. I am to state that the Commissioner of Commercial Taxes has this matter in mind and will provide more adequate accommodation and furniture for the offices as far as circumstances permit.

"The following matters are under consideration and orders will be passed as soon as possible:—

(a) The complaint against the taxing of dealers who buy groundnut and convert it into oil and cake both on their purchase of groundnuts and again on their sales of oil and cake.

(b) The request for the reduction from the turnover of a manufacturer of the excise duty paid by him to the Central Government on matches and sugar.

(c) The request for the acceptance of the system of account-keeping followed by certain dealers at Tuticorin (made by Sri Dhanushkodi Nadar) and

(d) The contention that the Agent for the Associated Cement Company at Cocanada was being treated as a dealer instead of as an agent under section 8 of the Act."

ACKNOWLEDGMENTS

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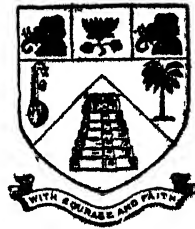
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JOURNAL

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VOL. X

DECEMBER, 1940

NO. 2

Some Recent Studies in the Kinetics of Reactions in Solution.

(A Review)

By

S. V. ANANTAKRISHNAN.

I

The first observation in the field of reaction kinetics in solution was made by Wilhelmy (1), who studied the rate of inversion of cane sugar. Systematic investigations in the field, however, are of comparatively recent origin. The earliest fundamental law was enunciated by Guldberg and Waage (2) and this law of Mass Action has been thoroughly tested by experiment.

Early in the numerous publications dealing with the velocities, it was noticed that temperature had a profound influence on the rate and the first important attempt to explain the high temperature coefficient was made by Svante Arrhenius (3). The much discussed radiation theory of Chemical Reactivity (4) followed twenty years later and, though it gave an impetus to the work, had to be ultimately abandoned in favour of a modified Arrhenius equation.

The basic idea in the Arrhenius postulate is the formation of an activated molecule, the energy of activation of which may be defined by the equation,

$$k = se^{-E/RT}$$

It is implicit here that the energy of activation is independent of temperature. For purposes of calculating this energy of activation two methods have been developed, the advances being essentially a post-war one.

Hinshelwood (5) and School have very successfully developed the idea of activation by collision. From the work of Clerk Maxwell, it is well known that in any system of molecules there is a definite distribution of velocities. Similarly, there can be a distribution of energies arising from continued impact. Obviously, this energy can be in different degrees of freedom, rotational and vibrational or translational. Since we do not know what to assume for internal phases of molecular motion, we assume the second alternative and the probability of two colliding molecules having an energy equal to the energy of activation will be the usual exponential term. Hinshelwood has shown that if n quadratic terms are involved in defining the energy, this is given by

$$\frac{e^{-E/RT} (E/RT)^{\frac{1}{2}n-1}}{(\frac{1}{2}n - 1)}$$

For collisional purposes, two "square terms" for the translational energy of each of the colliding molecules are used.

In the ideal system, every collision between two molecules having the energy E results in reaction, but in practice, it has been found from numerous gas reactions that the more general reaction velocity equation should be,

$$k = PZ e^{-E/RT}$$

where P is a "probability" or "steric" factor and Z the number of collisions. Allowing for $\frac{1}{2}n-1$ square terms for the degrees of freedom involved, this becomes,

$$k = PZ \frac{e^{-E/RT} (E/RT)^{\frac{1}{2}n-1}}{(\frac{1}{2}n - 1)}$$

Attempts to translate these expressions derived for gas reactions to reactions in solutions by Christiansen and by Norrish indicated considerable discrepancies that could only be explained by assuming a deactivation by collision with solvent molecules. Though several correction terms have been suggested, none of the alternatives are satisfactory and, as an approximation, only the gas expression is generally used.

Apart from the collision method with its approach from Kinetic theory, a new method has been developed in recent years by Wigner, La Mer, Rodebush, Eyring and Polanyi. This is the now familiar 'Transition state' method. Chemical reaction involves the breaking of bonds and the formation of new ones. During this transformation, it is not unreasonable to assume an intermediate stage which has neither the characteristics of the old nor those of the new. In the collision theory, this activated complex may either lead to the products or revert back to the original reactants, while the new concept allows of change only in one direction. In the formation of the products, the energy expended is a minimum and represents the activation energy. This energy may be calculated on the basis of the internal energy as a function of position, taking mutual interaction also into account. These calculations involve the solution of the Schrodinger wave equation with certain simplifications. Assuming the nuclei to be fixed, the electronic energy is approximately equal to the potential energy for various nuclear configurations, the earliest path from initial to final molecular configuration can be determined, the energy of activation being the minimum height in the path. The fundamental problem in these computations of electronic energy is the finding of the relation between the inter-atomic distance and the energy of the system. In the construction of these energy functions, an empirical equation due to Morse (6) has been of considerable help in the treatment of complex molecules. With simple diatomic molecules, the potential energy curves have been calculated from a full knowledge of the quantum numbers and infra-red frequencies but the complexity of spectra rules out this method for other molecules. Morse's equation, which is used in these semi-empirical calculations of activation energy is

$$E = D' [e^{-2a(r-r_0)} - 2e^{-a(r-r_0)}]$$

where E = energy, D' = a modified heat of dissociation,

a = a constant, r = interatomic distance and

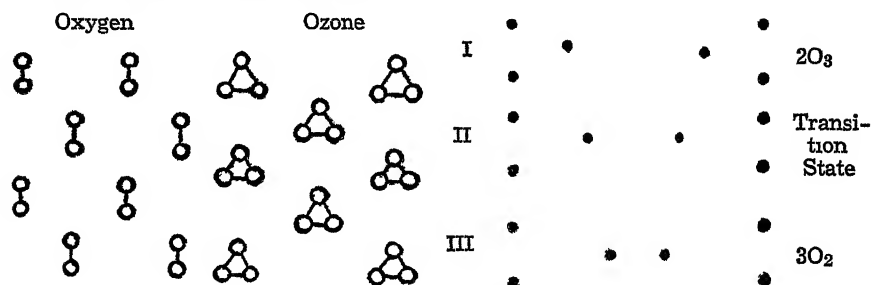
r_0 = normal distance.

The inter-atomic distance in the normal molecule r_0 may be obtained from X-ray data or from Infra-red absorption spectra. D' differs from the ordinary heat of dissociation D by the "zero point energy" $h\omega_0/2$, a value that may be determined from Raman spectra or from a complete analysis of the Band spectra. The constant a is defined by the equation

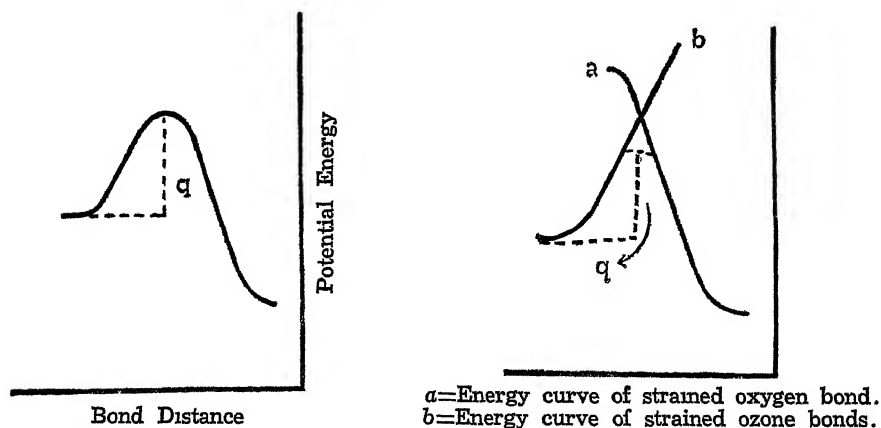
$$a = 0.1227\omega_0\sqrt{\mu/D'}$$

where 0.1227 is a general constant and μ is the reduced mass.

To illustrate this method, we may take up the decomposition of Ozone and the Ethylene-Bromine reaction.



A comparison between Ozone and Oxygen in the condensed state shows that the change consists only of a rearrangement in the pattern; instead of three bonds in each molecule and an intermolecular gap, we have pairs of oxygen molecules and a different gap. In the transformations from one to the other there is the transition state in which the distinction between gap distances and bond distances vanishes. Starting with two ozone molecules, consider the symmetrical horizontal displacement of two oxygen atoms, assuming no interaction between the two. Similarly, starting with three oxygen molecules, pull two oxygen atoms apart, again disregarding interaction between displaced atoms and the oxygen molecules flanking them. Plotting the potential energy against bond distance, we get two curves intersecting at a point, the energy and configuration of which represents the transition state. On account of the quantum mechanical degeneracy of the state, however, the crossing point is not sharp but is rounded off somewhat lower down, the maximum point representing a somewhat lower energy value.



The application of Morse curves for chemical reactions is well illustrated by the ethylene-bromine reaction (7)

For Bromine, $r_0 = 2.28\text{\AA}$

$$\omega_0 = 323.86\text{cm}^{-1}.$$

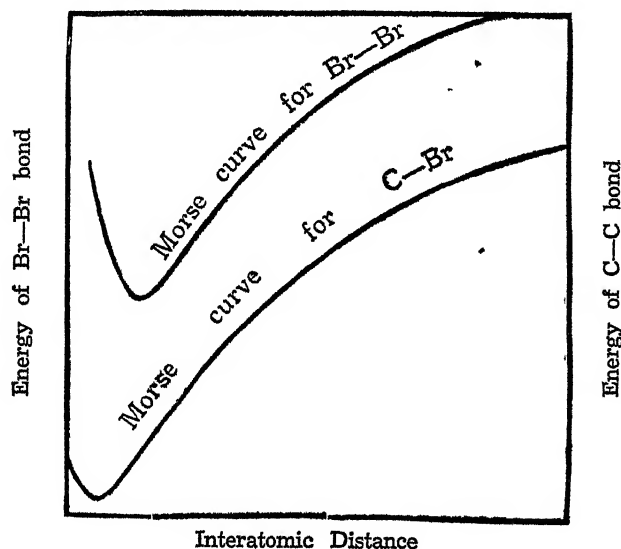
$$D = 45.23 \text{ kilocalories.}$$

$D' = D \left[1 + \frac{1}{2} \frac{323.86}{352} \right]$ where 352 represents a factor absorbing Planck's constant h and giving energies directly in kilocalories
 $= 45.23 + 0.46 = 45.69 \text{ kilocalories.}$

$$a = 0.1227 \times 323.86 \sqrt{\frac{1}{2} \cdot 79.92 / 45.69} = 1.98$$

$$E = 45.69 [e^{-2 \times 1.98(r-2.28)} - 2e^{-1.98(r-2.28)}]$$

By substitution of various values for r the tables and the corresponding Morse curves are obtained for Bromine. Curves for other pairs can also be similarly derived.



Suppose the two bromine atoms, as a molecule, is at the bottom of a topographical map and they approach the two doubly linked carbon atoms of the olefin by moving "northwards." The stable position is represented by circular lines of radius 2.06\AA representing the normal C-Br distance. If $r_{\text{C-Br}}$ is plotted on the Y axis and $r_{\text{Br-Br}}$ on the X axis, the energy of the system may be plotted at right angles to the plane and contour lines of definite energy can be projected on to the plane of the map. For purposes of the semiempirical method, one of the bromine atoms and one of the carbon atoms alone need be considered. The bromine atom moves along the valleys of energy contours. The straight line approach obviously represents a minimum expenditure of energy.

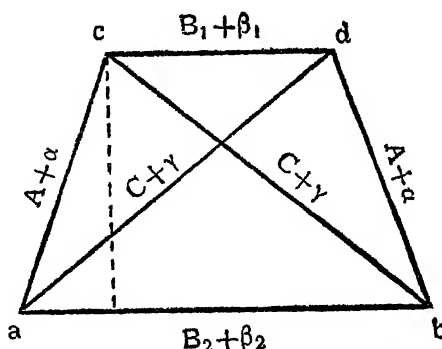
TABLE I.

r	$r-r_0$	E/D'	D
1.61	-0.47	1.286	58.7
2.05	-0.23	0.658	30.1
2.28	0.0	-1.000	-45.69
2.40	0.12	-0.958	-43.75
2.51	0.23	-0.864	-39.5
2.63	0.35	-0.751	-34.3
2.75	0.47	-0.638	-29.2
2.86	0.58	-0.532	-24.3
2.98	0.70	-0.439	-20.1
3.21	0.93	-0.292	-13.35
3.44	1.16	-0.190	-8.67
3.79	1.51	-0.0999	-4.57
4.14	1.86	-0.0496	-2.27
4.49	2.21	-0.0250	-1.14
5.07	2.79	-0.00796	-0.36
5.77	3.49	-0.00200	-0.091

TABLE II.

Atom Pair.	r_0 Normal interatomic distance. (A)	ω_0 Fundamental vibration frequency (cm.—1)	D Energy of dissociation (kilogram calories).
C—C	1.54	990	77
C=C	1.38	1,600	122
C≡C	1.21	1,960	200
C—H	1.12	2,930	92
C—I	2.10	497	44
C—Br	2.06	560	58
C—Cl	1.85	660	79
H—H	0.74	4,375	102
H—I	1.62	2,233	66
H—Br	1.42	2,603	85
H—Cl	1.28	2,840	100

The bromine atom has to move from this into the valley that curves round the carbon atoms. The impelling force for this is derived from molecular collisions. For calculating the energy of activation for this reaction, only the binding electrons are involved, the solution being that of a four electron problem.



Consider a polygon abcd in which the lines are drawn at random except that ab and cd are parallel and symmetrical with respect to a central line. The electrostatic and exchange reactions between all possible arrangements of atoms taken two at a time are then calculated for various distances Br—Br and C—Br. The two independent variables are r_1 the distance of separation of Br—Br and C = C pairs and r_2 half the distance between the bromine atoms. Other distances may be calculated from these. It can be shown that the potential energy J which is the sum of the coulombic energy and the exchange energy is equal to

$$J = Q + k = 0.14[2(A + \alpha) + (B_1 + \beta_1) + (B_2 + \beta_2) + 2(C + \gamma)] \\ + \frac{0.86}{\sqrt{2}} \sqrt{2[(A + \alpha) - (B_1 + \beta_1) - (B_2 + \beta_2)]^2 - 2[(A + \alpha) - 2(C + \gamma)]^2} \\ + [B_1 + \beta_1 + (B_2 + \beta_2) - 2(C + \gamma)]^2$$

The energy of activation E is given by the difference between this potential energy and the sum of the dissociation energies of Br—Br and the C—C bonds.

$$E = D_{\text{Br-Br}} + D_{\text{C-C}} - J$$

The values of E thus obtained are plotted against r_1 and r_2 to give the contour map and the lowest pass between the valleys comes at $r_1 = 1.14$, $r_2 = 2.40$ and gives a value for the Energy of Activation of 23,200 calories for the addition reaction. The relation between structure and the value of E will be considered later.

There are thus two distinct methods of approach to the problem of reaction kinetics but as in all applications of quantum mechanics, the transition state theory is of limited application. As Hinshelwood (8) remarks, "the great value of the transition state method is in causing us to think more deeply about the inter-relationship of thermodynamic and kinetic magnitudes rather than in providing us with an essentially more accurate calculus." As yet the method cannot be applied to chain reactions or to reactions in which removal of energy from the products is the rate determining factor.

The reactions that will be considered now are all approached from the standpoint of the collision theory, since we shall be dealing with complex compounds. Further, I shall be confining my attention to just those reactions that have been extensively studied by the Ingold school during the last decade.

While the mass of qualitative work has been accumulating, the quantitative side of organic reactions has not been the subject of systematic study until recently. An impetus to work on these lines was given by the interpretation of the chemical bond by G. N. Lewis with his concept of a stable duplet and an octet as the basis of chemical linking in general and by the ideas on Polar Molecules that we owe to Debye.¹ An electronic theory of organic reactions necessitated a kinetic study of familiar and unfamiliar organic reactions. For obvious reasons, the majority of the reactions that have been studied were in solutions, aqueous and nonaqueous, and we may pass on to a consideration of the methods that have been adopted in following the kinetics of the reactions in question. Attention is confined to a few of them and what follows will be a description of studies in nitration, degradation of 'Onium compounds, halogen-olefin additions, ester hydrolysis, and molecular rearrangements.

For measurements of the velocity of a reaction it is obvious that two conditions must be satisfied: the system under investigation should be made unstable in a negligibly short time and the mode of recording the extent of the reaction should also involve a negligibly short period. If the reaction takes a sufficiently long time, the time of mixing will be negligible. The subsequent method of following the reaction will be decided by the nature of the reaction. Some reactions are, however, too rapid for study by following the course of the reaction. If a series of compounds with similar structure are being studied a competitive

* The concept of resonance in recent times has also influenced the development of investigations in this field.

method is found useful. Both these modes of study may be illustrated by taking up some of the reactions.

The reaction that has been studied most thoroughly is the decomposition of the 'Onium compounds. The nature of this reaction enables one to follow the course of the changes by the usual analytical processes, the only precaution being the use of resistance glass for containers.

The study of nitrations (9) has given rise to numerous experimental methods, each making use of different physical properties of the compounds studied. While earlier work on the relative orienting influences of groups in nitration of benzene derivatives made use of para substituted derivatives, it was obvious that mutual interaction of groups were neglected. A more accurate and reliable procedure is to have only one substituent and this has led to the use of competitive method. The nitrations are usually done either with acetyl nitrate in acetic acid or with anhydrous nitric acid in nitromethane solution, the temperature range being 0°—30°C. a limitation arising from reaction velocities and the stability of nitration solutions.

In determining the relative rates of nitrations of say, benzene and toluene, the experimental measurement is of the quantity ratio of the mono-nitration product from which with certain auxiliary data, the relative rates may be calculated. This quantity ratio may be determined by density measurements on mixed mononitration products or by a bromometric method.

If x molecules of benzene and y molecules of toluene are nitrated together in time t to form Y molecules of total nitration product containing $100P$ molecules of nitrobenzene, it can be shown that

$$k_y/k_x = \log y - \log y_t / \log x - \log x_t$$

where $x_t = x - PY$; $y_t = y - Y + PY$.

This equation holds good even if the reaction is incomplete. The nitration product of toluene is a mixture of the three isomerides and the quantitative estimation of this has been carried out by a modified thermal analysis method, making use of the dimorphism of orthonitrotoluene

If γ represents the "first freezing point," in which the solid phase is paranitrotoluene, β the second freezing point in which the β form of orthonitrotoluene accompanies the para compound in the solid phase and α the "second freezing point" in which α form of the ortho compound accompanies the para in the solid phase, the following empirical equations may be constructed.

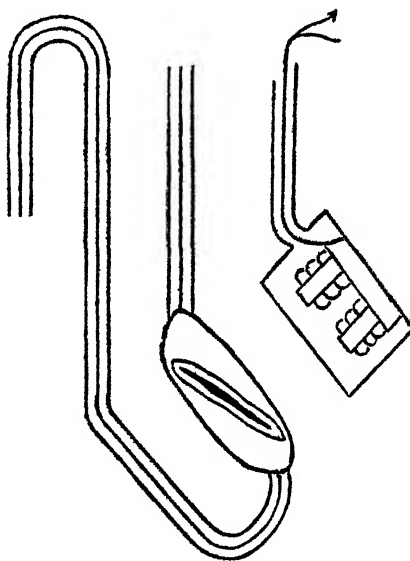
$$\begin{aligned}\gamma &= 71.55 - 112\omega - 115\mu \\ \beta &= -13.11 - 3.5\omega - 61\mu \\ \alpha &= -22.53 + 2.5\omega - 47.5\mu\end{aligned}$$

where 100ω and 100μ represent the percentages of the ortho and meta isomerides respectively.

If k_y/k_x is the reduced velocity of nitration of toluene the coefficients of activation of the various positions are given by

$$F_{\text{ortho}} = 3\omega k_y/k_x; \quad F_{\text{meta}} = 3\mu k_y/k_x; \quad F_{\text{para}} = 6\pi k_y/k_x$$

In later studies on the kinetics of nitration, a dilatometric method has proved successful (10). Several workers have noted that the distance travelled, l , by the meniscus in a dilatometer is proportional to the progress of the reaction. If D is the fractional volume change per unit length travelled by the meniscus, a constant for a dilatometer, and R the fractional volume change per gram molecule of the reaction, a constant for the reaction, then $(l-l_i) \times D/R$ measures the concentration of the reactants at time t . For nitration studies, the most suitable type of dilatometer for accurate work was found to be of the model illustrated.



More than with nitrations, the competitive method has been found necessary with bromine—olefin additions. The kinetics of other halogen additions has not yet been systematically studied. While there are a few reactions involving olefins with deactivating groups which take

measurable time for addition, there are several which are very fast. In the experimental studies, as light exerts a profound influence on the rate, the comparison of olefins has to be in the dark. Where the competing olefins are gases, a sufficiently low temperature has also to be used in order to have solutions of reasonable concentrations. As in the familiar thermochemical experiment of distributing a base between two acids to ascertain their relative "strengths," an amount of bromine insufficient to react completely with either of the olefins is added in solution.

If x_0 and y_0 be the initial concentration of the olefins and x and y the amount reacting in time t , the instantaneous speeds may be expressed with maximum generality that will be allowed by the equations,

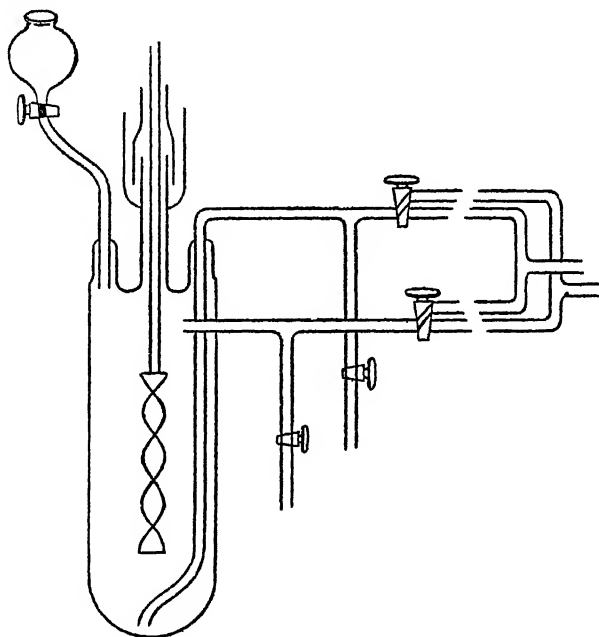
$$dx/dt = k'_x (x_0 - x) [Br]_t^m [k_{x1} (cat_1)_t^{n_1} + k_{x2} (cat_2)_t^{n_2} \dots]$$

$$dy/dt = k'_y (y_0 - y) [Br]_t^m [k_{y1} (cat_1)_t^{n_1} + k_{y2} (cat_2)_t^{n_2} \dots]$$

If the factors in square brackets cancel out on division except for a constant, the integrated form of the resultant equation will be

$$k_y/k_x = \log y_0 - \log (y_0 - y) / \log x_0 - \log (x_0 - x)$$

The reduced velocity for various olefins have been obtained by making use of this equation, the experiments being carried out in the apparatus illustrated (11).



The latest tool that has been used in the field of reaction kinetics is the now available isotopic tracers, radio-active as well as non-radio-active (12, 13). This has been applied especially in following the course of molecular rearrangements e.g., Walden inversion and Wagner-Meerwein transformations. The use of a radio-active halogen enables an experimental test of the hypothesis that stereochemical inversion occurs when and only when substitution takes place. The radio-active sodium iodide used in the experiments was derived by imbedding in paraffin a sealed tube containing the iodide very near a radon-beryllium-neutron source of 150 millicurie strength and the decay in radio-activity was measured with a Geiger counter. If N_s and N_i represent the total rates of substitution and inversion respectively, it has been shown that

$$N_s = \frac{1}{t} \cdot \frac{AB}{A+B} \log_e \frac{A}{A - x(A+B)/B\beta}$$

$$= \frac{1}{t} \cdot \frac{AB}{A+B} \log_e \frac{1 + \gamma \frac{A}{B}}{1 - \gamma}$$

$$\text{and } N_i = -\frac{A}{2t} \log_e \frac{\alpha_0}{\alpha}$$

A = Total organic iodide ; B = Total sodium iodide

β = Fraction of NaI in isotopic form at $t = 0$

x = Amount of RI in isotopic form; α = rotation $\gamma = -\frac{x}{B\beta}$

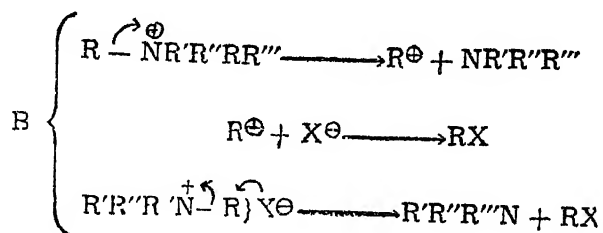
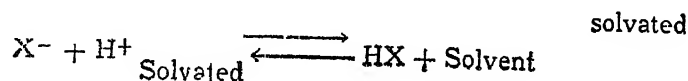
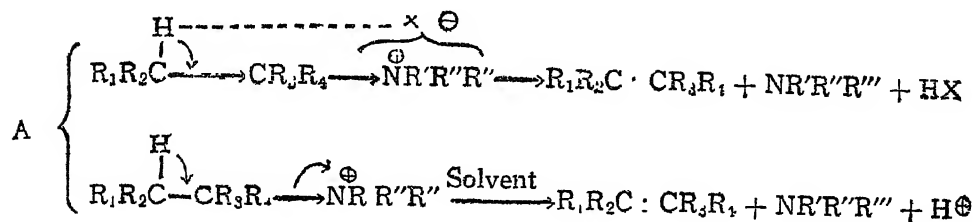
In the recent study of the Wagner-Meerwein change, Deuterium and radiochlorine have been used.

The methods adopted for ester hydrolysis do not call for any special mention. Here too, isotopic tracers have come in handy.

The decomposition of quaternary ammonium or sulphonium compounds may be considered to be special cases of the more general reaction, namely, aliphatic substitution. The mechanistic studies in both cases are closely related and the problem of 'Onium degradations and hydrolysis of alkyl halides may be taken up together.

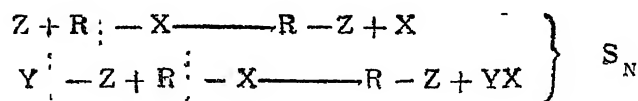
Exhaustive methylation is a familiar process in which very early two different reactions were noticed, one giving an unsaturated compound as a product and the other giving an alcohol. It is also found

that the presence of a hydrogen atom at the β carbon atom is essential for Olefin formation. Systematic investigations of the Kinetics of 'Onium degradation showed that the following mechanisms serve to explain all such reactions (14)

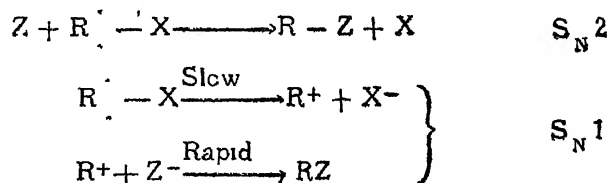


In a later paper (15) Ingold has generalised these reactions so as to include all aliphatic substitution reactions. The more general representation of the reactions is as follows.—

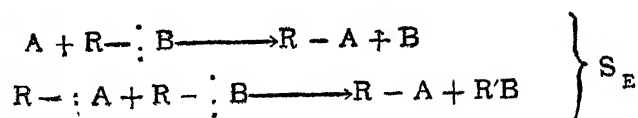
Nucleophilic substitutions



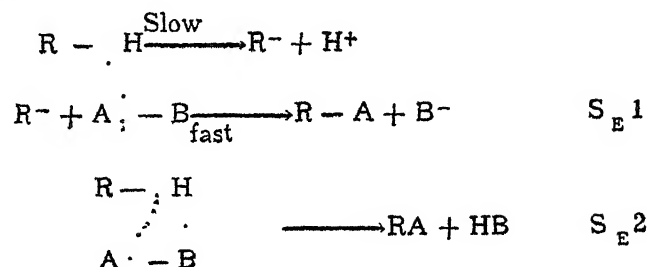
This can be further subdivided



Electrophilic substitutions

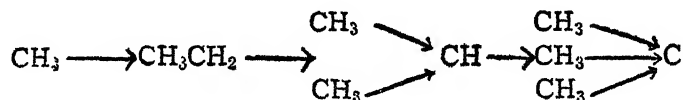


Subdivided

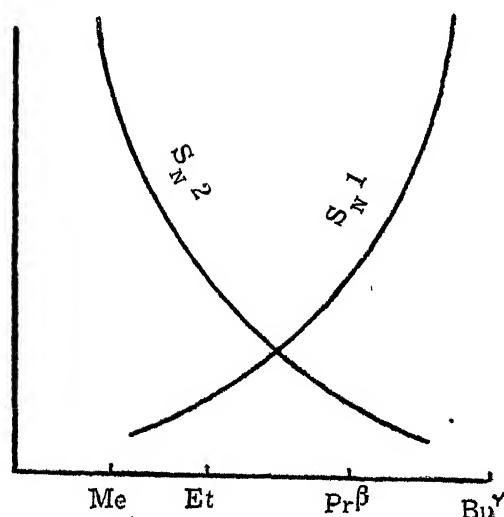


It will be noticed that S_{N2} and S_{E2} represent bimolecular mechanisms while S_{N1} and S_{E1} represent unimolecular mechanisms. Large electron release from R, strong electron affinity in X, low nucleophilic activity and concentration of the reagent Y favour S_{N1} .

An examination of a series of quaternary ammonium and of sulphonium compounds reveals certain interesting relationships between structure and mode of degradation. Accepting Sidgwick's rule of covalency maxima, an unionised quaternary ammonium hydroxide is not possible and their decompositions must necessarily be ionic in nature. Among the various substituent groups studied, it is found that Me and Me₃C groups are readily eliminated as alcohols while other primary and secondary alkyl groups are not. The alcohol elimination curve thus passes through a minimum. As one goes through the series,



the inductive effect of the alkyl components increases being a minimum with CH₃ and a maximum with tertiary butyl. This is consistent with a second order elimination of the methyl group. The increase in the number of alkyl groups suppresses this bimolecular mechanism and at some stage in the series the unimolecular mechanism becomes the more important one.

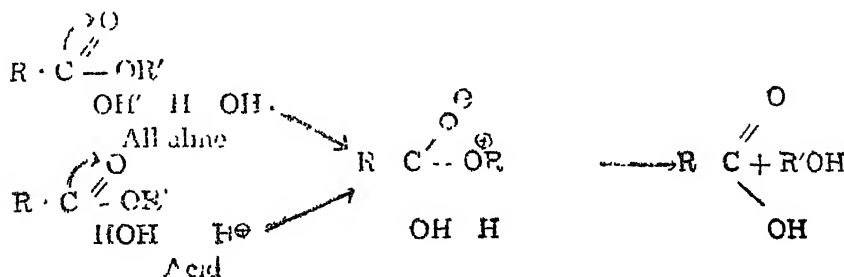


When one passes on to the aryl substituted compounds a variation has to be expected on account of the electromerism and the duplex polarity of the phenyl nucleus. The observations of Hughes (16) on the decompositions of the series of 'Onium compounds with CH₃, CH₂Ph, CHPh₂ and CPh₃ substituents show that the change from a bimolecular to a unimolecular mechanism occurs at the benzhydryl group. Similar observations with alkaline hydrolysis or alcoholysis of the corresponding halides have been made by Ward (17).

Now the change from a bimolecular to a unimolecular mechanism can arise from two causes. In the compound R R' R'' R''' N⁺X⁻, either the cationic stability of R may be increased or the basicity of the anion (using Bronsted's definition of the base) may be decreased. As with alkyl and araliphyl series, an anionic series of decreasing basicity O Et, O H, O Ph', O Ac', Cl' may be considered. When both series are taken along with a simultaneous reaction involving olefin elimination, the point of mechanistic change will appear as a region.

As a typical instance of cationic stability influencing the degradations, we can take up the case of phenyl ethyl trimethyl ammonium compounds. The unsubstituted compound decomposes with the formation of styrene and the process is essentially bimolecular. It was anticipated that the introduction of an "electron sink" in the para position by increasing cationic stability will bring about a mechanistic change. Experiments with p-nitro phenyl ethyl trimethyl ammonium compounds (18) showed the interesting result that the decomposition gave a unimolecular constant. Variation in the anionic component had no influ-

mechanism of ester hydrolysis that is generally accepted is the one due to Lowry (20)



By the use of an isotopic tracer, namely O^{18} in the acid hydrolysis of amyl acetate, Polanyi (21) has shown that during hydrolysis it is the C-O bond in C-OR that is broken and not the O-R bond. Kinetic studies with esters have been essentially with para-substituted benzoic esters, but even amongst these critical increment studies are very few. These have led to the interesting result that the value of PZ in the Arrhenius equation is substantially the same in both acid and alkaline hydrolysis, (22) a clear evidence in favour of the Lowry mechanism that gives a common route. The solvent effects observed with these ester hydrolysis, however, are difficult to amount for. In acid hydrolysis, the value of E increases as we change from alcohol-water \rightarrow acetone-water and in alkaline hydrolysis it is the reverse. Also the influence of substituents is greater in alcohol-water mixtures. A greater knowledge of the liquid state is necessary before an interpretation of this is possible. Our experiments in glycerol-water mixtures indicate the necessity for viewing this as a two stage reaction. The studies on ester hydrolysis by Hinshelwood as well as by Ingold have clearly shown that the influence of substituents on this side chain reactivity is of the same order as may be expected from an application of the electronic theory of organic reactions. With the range in velocity constants of the order of $1 \cdot 5000$ or more, this series of reactions must be expected to give the results mentioned, namely, a constant PZ and a changing E, the values of which lie on a slope $-2 \cdot 303 RT$, when E is plotted against $\log_{10} k$. All these experiments have been with para substituents and a few meta substituents alone. An examination of substituted aliphatic esters may be expected to show some difference and some peculiarities and experiments carried out in our laboratories do indicate these (23). It is relevant to mention here that the viscosity of the solvent seems to exert considerable influence on the reaction.

From the somewhat certain ground of 'Onium degradation and ester hydrolysis, we shall pass on to the uncertain regions of halogen addition and aromatic nitrations

As already indicated, a competitive method has been found very useful in the comparison of the reactivities of substituted olefins. The success of the method depends on the following assumptions.

1. The reaction is of the *first order* with respect to the *olefin*.
2. The reaction is of the *same order* with respect to bromine for the two similar reactions.
3. The reaction is catalysed by one dominant catalyst the active mass of which may be either constant or vary in any erratic manner with time, provided, however, that in the latter case the *order*, *n*, is the same for the two reactions.

Under controlled catalytic conditions, these assumptions appear to be justifiable. Another factor setting a limit to the validity of the equation is that the experimentally determined values of *X* and *Y* must be small if errors are to be minimised. A factor that was unnoticed in the initial stages of the competitive method for this reaction was the existence of an induction period. This introduced a further limitation. A minimum amount of hydrogen bromide has to be added to eliminate this induction period; the amount added, however, has to be sufficiently small in order to avoid the necessity of too rapid an addition of bromine. The study of a series of substituted olefins give the results appended (24)

TABLE III.

Expts. No	X	Y	K_y/K_x	Reduced rate for Y.	Mean.
17—19	$\text{CH}_2\cdot\text{CH}_2$	$\text{CHPh}\cdot\text{CH}_2$	3.24	3.24	3.35
22—25	$\text{CH}_2\cdot\text{CH}_2$	$\text{CHPh}\cdot\text{CH}_2$	3.43	3.43	
28	$\text{CHPh}\cdot\text{CH}_2$	$\text{CHMe}\cdot\text{CH}_2$	0.63	$0.63 \times 3.35 =$	2.03
29	$\text{CMe}_2\cdot\text{CH}_2$	$\text{CHMe}\cdot\text{CH}_2$	0.35	$0.35 \times 5.32 =$	
1—4	$\text{CH}_2\cdot\text{CH}_2$	$\text{CMe}_2\cdot\text{CH}_2$	5.5	5.5	5.53
20—21	$\text{CH}_2\cdot\text{CH}_2$	$\text{CMe}_2\cdot\text{CH}_2$	5.6	5.6	
26—27	$\text{CH}_2\cdot\text{CH}_2$	$\text{CMe}_2\cdot\text{CHMe}$	10.4	10.4	10.4
5	$\text{CH}_2\cdot\text{CH}_2$	$\text{CMe}\cdot\text{CMe}$	13.6	13.6	14.0
6—8	$\text{CMe}_2\cdot\text{CH}_2$	$\text{CMe}\cdot\text{CMe}$	2.54	$2.54 \times 5.53 =$	
14—15	$\text{CH}_2\cdot\text{CH}_2$	$\text{CHBr}\cdot\text{CH}_2$	small	small	small
9—10	$\text{CH}_2\cdot\text{CH}_2$	$\text{CO}_2\text{H}\cdot\text{CH}\cdot\text{CH}$	small	small	small
11—13	$\text{CHMe}\cdot\text{CH}_2$	$\text{CO}_2\text{H}\cdot\text{CH}\cdot\text{CHMe}$	0.13	$0.13 \times 2.0 =$	0.26
30—32	$\text{CH}_2\cdot\text{CH}_2$	$\text{CHO}\cdot\text{CH}\cdot\text{CH}_2$	1.5	1.5	1.5
33	$\text{CHMe}_2\cdot\text{CH}_2$	$\text{CHO}\cdot\text{CH}\cdot\text{CHMe}$	1.5	$1.5 \times 2.0 =$	3.0

Since this additive reactivity depends on the polarizability of the double bond one might expect the influence of the substituents on other phenomena like the Raman effect directly connected with polarizability. This is seen from an examination of the table.

An examination of the bimolecular velocity constant obtained with initially added hydrogen bromide clearly indicates that while an increased catalyst concentration increases the rate of addition there is no direct proportionality between catalyst concentration and rate constant (28).

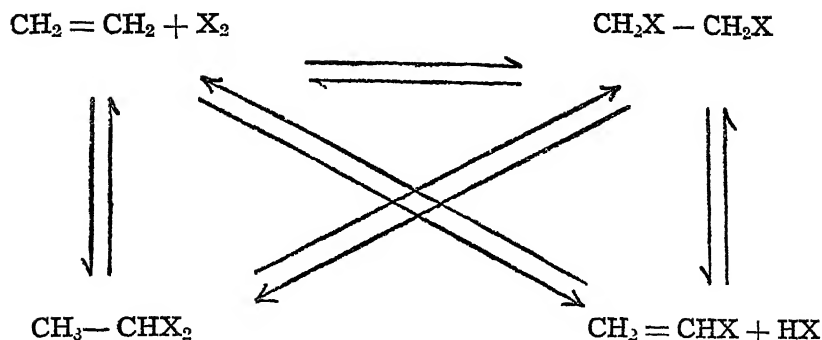
TABLE VI.

Concentration of Tiglic acid M/15.

Concentration of Br ₂ .	Concentration of HBr in gms. per 200 c c. of solution	Velocity constant k ₂ mols/litre.
(A) M/15	0.1188	0 00790
(B) M/15	0 0594	0 00627
(C)	2.00	1.32
(A) M/30	0.0594	0 000577
(B) M/30	0 0297	0.000428
(C)	2.00	1.34
(A) 2M/75	0.0594	0.000483
(B) 2M/75	0 0238	0.000317
(C)	2.50	1.52
(B) M/50	0 0178	0 000231
(A) M/50	0 0594	0 000405
(C)	3 3	1.76
(B) M/150	0.00594	0.000068
(A) M/150	0 0594	0.000224
(C)	10	3.29

C=Ratio A/B.

In applying the electronic theory of organic reactions, it is clearly recognised that the energy of activation in any type of reaction as the present series will vary with the substituent atoms or groups. As I have already indicated, from semi-empirical grounds, Sherman has arrived at a value of 23,000 calories for the reaction between Ethylene and bromine considering the following series of reactions (29).



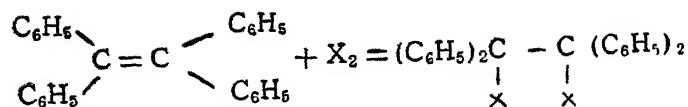
It will be noticed that these calculations do not take into account the possibility of a chain mechanism for this reaction. As such one has to expect differences between calculated and observed values for the energy of activation. For ethylene itself experimental values are not yet available and where these are available, calculations have yet to be made. The following figures, however, may not be without interest.

	E
Crotonic Acid	10,100
Tiglic Acid	6,400
β -Dimethyl Acrylic Acid	4,400

The dark reaction between olefins and bromine is found to be as much a chain reaction as the photochemical one, though there is no evidence of bromine atoms being formed in solution in the dark. All available evidence is against the atom chain mechanism for this reaction. Also, in the reactions in oxygenated solvents, there is some evidence that the solvent itself takes part in the reaction (30).

Before leaving the subject, it may not be out of place to mention the peculiarities of the phenyl substituted olefins. As anticipated, from theoretical grounds, styrene adds on bromine more rapidly than Ethylene. Tetraphenyl-ethylene is remarkable in that it does not add on bromine but rapidly yields substitution products. An interesting explanation for this has been given by Pauling (31)

He shows that as a result of conjugation of phenyl groups and double bonds, the extra resonance energy of tetraphenyl ethylene (1.08 v e) is more than enough to overcome the unsaturation of the double bond (90.74 v e) in consequence of which the properties of the substance differ, radically from those of an unsaturated compound. Using bond energy values given in earlier papers Pauling calculates ΔH values for the reaction:



where X_2 is H_2 , Cl_2 or Br_2 and gets values of -0.30 v.e., -0.42 v.e. and $+0.24$ v.e. respectively. If ΔH does not differ very much from ΔF , these suggest that tetraphenyl ethylene will add on hydrogen and chlorine but not bromine. It may be remarked that as yet Pauling's conclusions are only qualitatively true.*

To conclude, we can take up the problem of nitrations. Kinetic studies are available only for aromatic nitrations. As with bromine additions, we may notice the competitive method first and then pass on to a consideration of the mechanism. The appended table gives an idea of the relative orienting effects as revealed by these competitions in nitration of mono-substituted compounds. (32)

Substance	Relative Rate
$\text{C}_6\text{H}_5 \cdot \text{H}$	1
$\text{C}_6\text{H}_5 \cdot \text{F}$	0.15
$\text{C}_6\text{H}_5 \cdot \text{Cl}$	0.033
$\text{C}_6\text{H}_5 \cdot \text{Br}$	0.030
$\text{C}_6\text{H}_5 \cdot \text{I}$	~ 0.18
$\text{C}_6\text{H}_5 \cdot \text{CooEt}$	0.0037

The results indicate that the rates of nuclear nitration passes through a minimum in the halogen benzenes contrasting with the absence of such intermediate maximum or minimum when one considers side chain reactivity. This difference is presumably due to the relatively greater importance of polarizability effects in nuclear than in side chain reactivity. The experiments indicate that the halogens are "electron releasing" in the order.



Nitration studies with various solvents have shown that they may be divided into three classes.

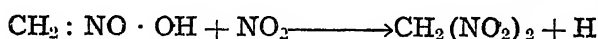
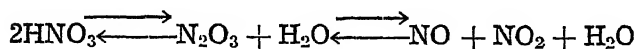
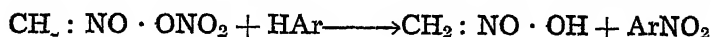
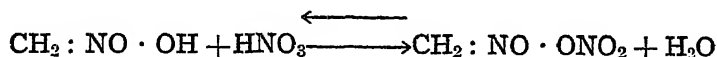
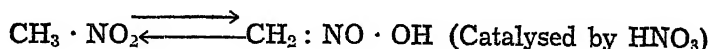
Slow: Acetic acid, Dioxan, Acetonitrile.

Intermediate: Nitromethane, Acetic Anhydride.

Fast: Sulphuric acid.

*The possibility of a bromine addition compound in the presence of a catalyst is being investigated.

For Kinetic studies by a dilatometric method, the intermediate solvents have been used and the nitration in nitromethane solution is found to necessitate a chain mechanism in which the solvent plays an important role. The suggested chain mechanism is as follows (33)



The conclusion reached from the studies is that in Nitromethane solution, the aci form of the solvent forms a mixed anhydride with nitric acid which is a better nitrating agent, recalling the relative efficacy of brominating agents as influenced by the structure of such reagents. Another interesting observation in these experiments is the surprising fact that the rate of nitration of benzene, toluene, and ethyl benzene are independent of the hydrocarbon concentration. Unlike these however, the mono-halogen derivatives follow no simple order, and the results do not lend themselves to simple mathematical computations. There are clear indications that the rate of nitration is a function of the concentration of the halogeno-benzene being nitrated. The only qualitative similarities observed in the nitration of the hydrocarbons and the halogeno-benzenes were (i) the rapid increase in the rate of addition with increasing concentration of nitric acid and (ii) the decelerating influence of nitrous acid.

The brief survey attempted in the preceding pages might have indicated the extent to which Kinetic studies have enabled a somewhat better understanding of the fundamental reactions of compounds familiar to the organic chemist. It is also clear that the studies have only tended to make the problem apparently more difficult to solve and further work on the reactions may be expected to unravel what has so far eluded us.

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- (18) Hughes. J C S , 1933, 75, *loc. cit.*
- (19) W Taylor J.C S , 1937, 992.
- (20) Lowry Reunion Internationale de chimie physique, 1928, 219
- (21) Polanyi and Szabo Trans Faraday Soc , 1934, 30, 508
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- (23) Anantakrishnan and Krishnamurti unpublished results
- (24) Anantakrishnan and Ingold J C S , 1935, 1396
- (25) Williams J C S , 1932, 2911.
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- (27) Anantakrishnan and Venkatraman. *loc. cit.*
- (28) Anantakrishnan and Venkatraman. Proc Ind Acad Sci. 1940, 1.
- (29) Sherman, &c J. Chem Phys., 1936, 4, 732
- (30) Weber, Hennion and Vogt J Amer Chem. Soc., 1939, 61, 1457.
Anantakrishnan and Venkatraman *loc cit.*
- (31) Pauling J. Chem Phys , 1933, 1, 363.
- (32) Ingold, &c.: J C S , 1938, 905, 918.
- (33) Ingold and Benford. *loc. cit.*

**Studies in Sanskrit Texts on Temple Architecture
with Special Reference to the Tantrasamuccaya**

By

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ADHIṢṬHĀNA, UPAPĪṬHA AND PADMA—WHAT ARE THEY?

Undoubtedly in our text, the Adhiṣṭhāna described as well as the Upapīṭha and the Padma, are members of the whole structure and not divisions of the column. This point is made clear by Śaṅkara in the following remarks :

“ अथाधिष्ठानादिप्रासादावयवान् वदन्नधिष्ठानादप्यधोदेशे पक्षान्तरेण कल्पनीयस्योप-
पीठस्य क्लृप्तिमाह—मासूरोच्च इति ॥”³¹⁰

The stanza³¹¹

“ चित्तेत्यधिष्ठानमिहानुरूपं समं तलीकृत्य शिलाप्रतानैः ।
विभज्य गर्भान्तरबाह्यमित्तिन्मध्यनाडी रचयेद् यथार्हम् ॥”

on the other hand, gives internal support to the view that the ‘Adhiṣṭhāna’ referred to here is the basement of the temple, which is to be distinguished from the base of the column. For, basement is an indispensable and primary member of the whole structure, whereas base of the column forms only a division of the column which is itself a member that comes above the basement. Mayamata³¹² thus lays down that the Adhiṣṭhāna with or without an Upapīṭha below should be raised from the ground level that is obtained as a result of filling in and pavement of the foundation-pit ‘Jāṅghāvarga’ (Jāṅghā meaning pillar) is required to be constructed above the Adhiṣṭhāna (जङ्घावर्ग तदूर्ध्वगम्—says Maya). The definition of Adhiṣṭhāna, viz. :—

“ प्रासादस्तु निजैरङ्गैरधिष्ठिति यं सदा ।
दृढं शिलादिघटितं तदधिष्ठानसंज्ञितम् ॥”³¹³

is itself suggestive of the fact that the Adhiṣṭhāna described is not confined to the base of the column, but related to the complete structure.

310. *Tantrasamuccaya* with Vimarśinī (T. S. S. Edition), Part I, p. 53.

311. *Tantrasamuccaya*, Patala I, stanza 17.

312. *Mayamata*, XIV, 10 (T. S. S. Ed.).

313. *Vide Gurudevapaddhati* (T. S. S. Edition), Part III, Ch. XXX, St. 67; also the *Śilparatna*.

This relationship of Adhiṣṭhāna to the whole structure is made clear by such statements as

“ प्रतिक्रमं तत् सुरमन्दिरोचितम् ”³¹⁴

(Pratikrama is best fitted for the temple of God). Thus in the texts we have noted above the reference is directed to the temple rather than to a part thereof.

Dr. P. K. Ācārya, in his Translation of the *Mānasāra*,³¹⁵ renders the terms 'Upaṭīṭha' and 'Adhiṣṭhāna' as Pedestals and Bases of Columns. This interpretation is not warranted by the text concerned, for nowhere in the course of the chapters on Upaṭīṭha and Adhiṣṭhāna do we find any reference to columns. In the usual wake of procedure, *Mānasāra* devotes a single chapter towards the treatment of each member of the structure. The main members, as we have noticed already, from bottom upwards are Adhiṣṭhāna, Stambha, Prastara, Gala, Śikhara, and Stūpikā. Each member differs from the other, and this difference is inevitable, for each is designed to express its particular function, which is different from that of the other. It is only when all these parts discharge their respective functions do they declare this affinity to the whole structural unit. Each part being different from the other in its differing function, it is dealt with separately. But in the very separateness of parts, there is conveyed something which indicates the 'paradox of unity. Difference here does not mean absolute separateness, but separateness essential for the expression of the law of proportions and the principle of relationship. Proportions have relativity, and each member of the structure keeps its proportions in a relative measure, which makes it one with the whole unit of the ultimate structure. Hindu builders, no doubt considered each part individually, but they considered it in its relation to the whole building. They strove to reveal through the varying functions of the parts the architectural unity that prevades a good building. The member Adhiṣṭhāna is naturally ordered to be so disposed that, while it appears to be joined on to its adjacent parts, such as the column (Pāda), it is completely organised and ultimately related to the structure as a whole. The treatment of Upaṭīṭha, Adhiṣṭhāna, Stambha, etc., as members of the building is clear-cut, scientific and artistic. It is completely in conformity with the principle of proportions and relationship. The Upaṭīṭha and Adhiṣṭhāna described in the *Mānasāra* have their reference not to columns, which form part of the structure, but to the whole structure.

314. *Mayamata*, Ch XIV, St. 24.

315. *Mānasāra* translation, Chapter XIII and XIV.

Dr. Ācārya's interpretation of the terms 'Upapīṭha' and 'Adhiṣṭhāna' as Pedestals and Bases of Columns has no ground for support. It deviates the *Mānasāra* from the general and scientific and artistic line of treatment.

In the chapter on columns³¹⁶ called 'Stambhavidhāna' or 'Pādavi-dhāna', which naturally and closely follows the chapter on 'Adhiṣṭhāna,' *Mānasāra* like other authors does not fail to take note of the divisions of a column. The height of the whole column is here said to consist of the portion from above the 'Adhiṣṭhāna' to below the 'Uttara':—

“ अधिष्ठानोपरिष्ठात्तु चोत्तराधोऽवसानकम् ॥”³¹⁷

Adhiṣṭhāna, as implied in the statement of the *Mānasāra*, is a distinct member and its difference from the column is indicated by the fact that it is treated as a standard, with reference to which the height of the column is measured³¹⁸. The column, in its turn, is also distinguished from the Adhiṣṭhāna below it and the Uttara that is above it. The term 'Adhiṣṭhāna', further, is not found used in the course of the description of the divisions of the column. The three main divisions of a column, as generally understood, are the base, the shaft and the capital. The base is indicated by the expression 'Mūla,' the middle by 'Madhya,' and the top by 'Agra'.³¹⁹ The term 'Mūla', in this connection, is rendered as 'base' by Ācārya, and he further gives the root-meaning 'root'. When he renders the term 'Adhiṣṭhāna' also by the expression 'Base,' the idea intended by the author to be conveyed is blurred and confusion eventually results. Again, by way of bracketed expressions wrong sense appears to have been thrust into the translation. Thus the line 'शुद्धमन्यमुख्यानां हस्त्याणां निर्गम च तत्' is thus rendered by Ācārya 'The projections of (the bases of columns for) buildings of the smallest, the intermediate, and the largest types should correspond to them (i.e. should be the smallest, the intermediate, and the largest respectively)'.³²⁰ When the reference here is obviously to the whole structure, where is the necessity to relate it to a part thereof? To a wrong understanding of the terms seems due the presentation of curious types of pillars³²¹ in the

316 *Mānasāra* Ch. XV.

317 *Ibid.*, Ch. XV, line 7, also *vide* lines 8, 9, 10, 11.

318 *Ibid.*, lines 9, 10, 11, also *vide* *Mayamata* (T. S. S. Ed.), XV, st. 4; *Kāśyapa-sūtra*, (Ānandāśrama Series), VIII, 3.

319. *Mānasāra*, XV, (P. K. Ācārya's Ed.) line 23, 24, and 25.

320 *Mānasāra* (Translation), Ch. XIV, line 392.

321. *Mānasāra* (Illustration), Sheets XLIV, XLV, XLVI, XLVII.

section on illustration. The height of the Adhiṣṭhāna which ought to belong to the structure at large is added to that of the pillar which is after all a structural part of as much structural importance as the parts above and below it. The pillars illustrated look completely disproportionate to the temple. Mānasāra clearly states that the height of the Māsura (basement) should be proportionate to the height of the building : 'हर्म्यतुङ्गवशात्प्रोक्तं तस्य मासुरकीञ्चतम्'.³²² It is certainly wrong to thrust any idea of part in the expression 'Harmyatuṅga' which evidently means 'the height of Harmya (i.e.) the height of the temple.' Again in such lines³²³ as 'देवयूसुरभूषणानां हर्म्याणां तत्प्रकल्पयेत्' the type of Adhiṣṭhāna that has been described has obvious reference to the whole temple and never to a pillar. The association or relationship of the basement with the structure as a whole is again evidenced in these lines³²⁴ :—

“ समस्तहर्म्यादि च घातुसर्वं कृतं विमान (नं) ।
मसुरेण सह यदि (न) स्यात् ॥”
“ तस्मान्मसुरेण सहैव सर्वं कृतं विमानेषु च भूषणानि ।”

Are there actual pillars in existing structures which correspond to the illustrations of pillars presented to us by Ācārya in his Illustration Volume of the *Mānasāra* ?

We shall now turn our attention towards Rām Rāz and examine his observations on this much misunderstood topic. Rām Rāz views Indian architecture through the spectacles of Western architectural literature. It deserves to be remembered in this connection that Western architectural terminology does not wholly fit in with or correspond to Hindu nomenclature and a faithful interpreter of our architectural literature should not avoid a thorough understanding of the peculiarities inherent in the systems of art Eastern as well as Western. Rām Rāz observes: “The Hindu orders may be said to consist of four principal parts, namely, the *upapīṭha* or pedestal, the *adhiṣṭhāna* or base, the *stambha* or pillar, and the *prastara* or entablature”³²⁵ The term “Order” figures prominently in Western architectural literature. What is its architectural meaning as understood in the West? It is a column or pilaster, with its base,

322 *Mānasāra* Text, Chapter XIV, line 8

323. *Mānasāra* Text, Chapter XIV, line 43, *vide* also lines 63, 64, 80, 90, 108, 122, 143, 168, 169 etc.

324. *Ibid.*, lines 405, 409, 410.

325. Rām Rāz, *Essay on the Architecture of the Hindus*, p. 22.

shaft and capital, and the entablature above it (sometimes called 'epi-style'), consisting of architrave, frieze, and cornice considered as a single architectural feature. And the main 'Orders' of the European classical architecture are systematised classifications of five different types, Tuscan, Doric, Ionic, Corinthian and Composite³²⁶ The 'Order' determines the style of Western architecture and, as Stratton would put it, "the Classic Order is the Classic Style itself".³²⁷ In the terminology of Hindu architects, there is no term, so far as we know, which corresponds to what is technically understood as 'Order' in the West. Nor are the column and entablature treated as one architectural unit in India, determining the style of an Indian temple. In Hindu architectural literature, the distinguishing feature of style is what is known as 'Śikhara,' the portion above the neck (Gala) and entablature (Prastara). This Śikhara is admittedly the essential basis for the differentiation of style in Hindu architectural literature, and in its office and situation it differs from the members such as the Stambha and Prastara. The 'Nāgara' class of temple is determined by its square Śikhara, the 'Vesara' by its circular Śikhara and the 'Drāvīda' by its faceted Śikhara. Entablature, column and basement below the Śikhara are not taken into any consideration of style when a temple is of mixed shape. The body of the temple which comprises these members is mostly, if not always, described as square, and the fundamental basis of differentiation is the shape of the Śikhara otherwise known as Śiras (the head) of the structure. Order, representing the column and entablature is therefore outside the province of the consideration of the Hindu style of architecture. Hence it is not proper to speak of Hindu Order in the determination of the Hindu style. There is no such thing as 'Hindu Order' in Hindu architecture in the sense in which 'Order' means in Western architectural literature. The Hindu temple, as we have observed, is a unit complete in itself, and the different constituent elements namely, the Adhiṣṭhāna, Pāda, Prastara, Gala, Śikhara and Stūpikā form one organic whole in the same way as the different limbs enter into the organic composition of the human body. Each part here is treated as bearing integral relationship with the whole.

Leaving the technical and architectural sense aside, one might mean by Order 'arrangement' in the general sense of the term, and thus speak of Hindu order as mere classification or arrangement of the parts of a building one above the other. In that case, Hindu order must be said to consist of not four, but six principal parts; for, all Hindu architec-

326. Vide *Encyclopaedia Britannica* under 'Order'.

327. Stratton's *Orders of Architecture* (p. 1).

tural authorities have enumerated Adhiṣṭhāna, Stambha, Prastara, Gala, Śikhara or Śīrsa, and Stūpikā as the main members of a temple. The statement of Rāz excludes the last two parts Śikhara and Stūpikā from the list of enumeration, as well as Gala, and includes Upapīṭha, which is after all an optional element. The phrase 'consists of' which Rāz employs is delimiting in its connotation and is different from the comprehensive word 'comprise.' If Rāz had used the expression '*comprise*' in the place of 'consist of', then his statement might have given some room for the inclusion of Śikhara and Stūpikā as understood in the list of enumeration, and the interpretation of the term 'Order' in the sense of 'arrangement' would have been plausible, though with some difficulty. We say 'with some difficulty' because, Śikhara is a part indispensable in the view of Hindu builders. Hindu architects, who conceive of architecture in terms of the human organism, give great prominence to the head part of the structure. In the human form, the head undoubtedly is the most distinguishing feature and a man is recognised only from the features of his face. Rightly did the Hindus hold the head as the prominent part of the organism and call it '*uttamāṅga*,' a synonym often used to denote the head. The Śikhara, otherwise known in architectural literature by its synonyms such as 'śiras' and 'śīrsa,' forms the head portion of the structure and is naturally considered the distinguishing and prominent feature of a building. As such, it cannot go uncounted in the enumeration of the principal parts of a building. In fact, it occupies a supreme place in the arrangement of the members of the structure. In any case, whether we take the term 'order' in its technical and restricted sense or in its general and original sense, the statement of Rāz that "the Hindu orders may be said to consist of four principal parts etc.," is hardly acceptable, as it is far from the Hindu method of approach to the subject of architecture.

"Western architects consider the base, not as a distinct member, but as a constituent part of the column,"³²⁸ says Rām Rāz. A column, as it is generally understood in the East and the West, is broadly divisible into three parts, the base, the shaft and the capital. As such, the base mentioned by Rām Rāz in this sentence, refers to the basement of the structure situated beneath the pillar. If we are to understand by base the basement, then the following remarks: "and this is not altogether at variance with the practice of the Hindu architects"³²⁹ are at variance with the usual treatment of Adhiṣṭhāna by Hindu writers. The reason adduced by Rām Rāz in the words "for they likewise include the base

328. Rām Rāz, *Essay on the Architecture of the Hindus*, p. 22.

329. *Ibid.*

and capital in taking the height of the pillar"³³⁰ is not clear. If by 'base' is here meant the basement, then they do not include it in the height of the pillar. "However," he continues, "the latter (i.e. the Hindu architects) invariably treat of a pedestal and base as separate bodies, as they are sometimes employed without pillars."³³¹ True, base (in the sense of basement) is separately treated, but this treatment, it must be remarked here, is furnished with a different intention altogether, namely, with a view to asserting the differing functions of the members and expressing their integral and organic relationship with the structure. The individual treatment is perfectly in agreement with the order of enumeration of the main parts of the temple. The Adhiṣṭhāna described in Chapter XIV of the *Mānasāra* is a distinct member, the first main and bottom-most constituent part of the temple and not the base of a column. The Upapīṭha described in Chapter XIII is an optional member, built beneath the Adhiṣṭhāna, if desired, and not the pedestal of any pillar. Dr. Ācārya, while translating the chapters under observation, seems to have based his interpretations on the theorising of Rām Rāz on the so-called orders of Hindu architecture.

STANZA 17.

The Marking of the surface of Adhiṣṭhāna.

The author in this verse speaks of the final stage in the construction of the Adhiṣṭhāna. Here, he requires the architect to fill in the Adhiṣṭhāna with stones and then pave it and thus prepare its surface for the marking of the divisions into Garbhagrha, Āntarabhitti, Bāhyabhitti, and Madhyanāḍī. Garbhagrha literally means the womb of the house. It is the innermost sanctuary, the Holy of Holies, in which is installed the image of the deity worshipped. This inner-chamber Garbhagrha, is enclosed immediately by Āntarabhitti or inner wall. The external wall is called Bāhyabhitti and in the space between the two Bhittis (walls) runs all around the passage known as Madhyanāḍī or Antarāla. The proportions of these main divisions are related in the subsequent verse.

समन्तलीकृत्य —The levelling of the ground floor of the Adhiṣṭhāna may be carried to the extent of Jaṅghā, or Gala, or Prati according to a statement which says :—

“ जङ्घान्ते वा गलान्ते वा प्रत्यन्ते प्रस्थरोचितम् ।”

330 *Ibid.*

331. *Ibid.*

In a vernacular text called Śilpiratna K. Nilakaṇṭhan Āsāri³³² observes that in the course of the construction of the door or the Nādi, Pāduka should not be broken anywhere and if the basement comes under the Pratibandha class, any cutting of even Prati should be carefully avoided.

The words 'Iha' and 'Anurūpa' are significant. The commentator Śaṅkara remarks :—

“ इह इति उक्तप्रकाराणामन्यतमेनापि विधिना । ”³³³

Here the commentator's statement implies that the Adhiṣṭhāna might be constructed in accordance with the details already furnished in the text or in the wake of what has been prescribed elsewhere in the writings of other authors. The author affords much room for variation in respect of proportions and ornament, and does not exhaust all the possible types that are described in the works of previous authorities. He accepts and lays down the most commonly treated varieties and with regard to the other possible types he lends his approval and leaves the choice to the option of the architect. The term *anurūpa* suggests the idea that the nature of the part should agree with the nature of the whole. The ornamentation and other features of the basement must correspond to the general and prominent character of the whole edifice. It is an organic principle, approved by all authorities on architecture, whether ancient or modern, Eastern or Western, that every part of a building should form an aliquot part of the whole, that it should bear the impress of the nature of the whole. Adhiṣṭhāna, which constitutes an organic part of the temple, should be so constructed that it should express the general aesthetic impression which the different parts produce in their achievement of harmonious relationship with the whole.

STANZA 18.

The breadth of the Garbhagrha

In this stanza the author prescribes nine alternative measurements for the Garbhagrha. The proportions given are those which refer to Vitati (breadth). Since length is not specifically stated the same prescription applies also to the length, and the Garbhagrha described, it

332 *Śilpiratna*, p. 18 (S. T. Reddiar and Sons, V. V. Press, Quilon).

333. *Tantrasamuccaya* with Vimarśinī, Part I, p. 57 (T. S. S. Edition).

may be noted, is necessarily a square structure. The nine proportions laid down are $\frac{2}{3}$, $\frac{3}{5}$, $\frac{4}{7}$, $\frac{5}{9}$, $\frac{6}{11}$, $\frac{7}{13}$, $\frac{8}{15}$, $\frac{1}{2}$ and $\frac{5}{8}$ of the breadth of the Prāsāda. These proportions are based upon the following lines from the *Saivāgama Nibandhana* :—

“ व्याघ्रा पञ्चदशौजांशे व्यासे द्वाद्याधैर्यथाक्रमम् ।
पञ्चाष्टांशेऽखिलार्धं वा गर्भं तु नवधा स्मृतम् ॥”³³⁴

The author of the *Mañjarī* also gives similar proportions in the stanza quoted below :—

“ गर्भागारस्य वक्ष्यामि विभागं नवधा पुनः ।
उत्तमाधममध्यानां त्रिभिर्भेदैर्यथाक्रमम् ॥
भागद्वयं त्रिभजिते वसुभिश्च पञ्च भूतैश्च वहिरथवा स्वरभेदतोऽपि ।
रुद्रैश्च षट्कनवपञ्चतिथिप्रभेदैरष्टत्रयोदशभिदा च मुनिगृहार्धम् ॥”³³⁵

($\frac{2}{3}$, $\frac{5}{8}$, $\frac{3}{5}$, $\frac{4}{7}$, $\frac{6}{11}$, $\frac{5}{9}$, $\frac{8}{15}$, $\frac{7}{13}$, and $\frac{1}{2}$).

The *Mayamata* prescribes nine proportions of which $\frac{3}{5}$, $\frac{4}{7}$, $\frac{5}{9}$, $\frac{6}{11}$, $\frac{7}{13}$, $\frac{8}{15}$, and $\frac{1}{2}$ are in agreement with those quoted above. The difference is in respect of two proportions $\frac{2}{3}$ and $\frac{5}{8}$. The proportions given instead are $\frac{1}{3}$ and $\frac{9}{17}$. Notice the statement of Maya³³⁶ :—

“ हर्म्यतारत्रिभागैकं भूतांशेषु गुणांशकम् ।
धातुभागे युगांशः स्याद् बाणांशं नवभागिके ॥
रुद्रांशे रसभागं तु धातुत्रयोदशांशके ।
तिथ्यंशे वसुभागं तु सप्तदशा नवांशकम् ॥
विस्तारार्धं तु ते सर्वे नालीगृहविशालताः ।”

Kāśyapa³³⁷ also gives nine proportions, and he concludes his statement with the line :—

“ गर्भगृहस्य विस्तारो नवधा परिकीर्तितः ॥”

334. *Saivāgama Nibandhana*, Patala XIII (A. Ms. from the Cochin State).

335. *Mañjarī*, Patala VI, (A Ms. from the Adyar Library).

336. *Mayamata*, Ch. XIX, 13, 14, 15 (Ekabhūmividhāna).

337. *Kāśyapaśilpa*, Patala XXVII, stanzas 10-12.

The *Śilparatna*³³⁸ quotes this present stanza in Chapter XXI. The variant proportions stated by Kāśyapa are also noted by the author of the *Śilparatna* in the same chapter:—

“ प्रासादस्य त्रिभागैकं सप्तभागानलांशकम् ।
विशेषाद् गर्भगेहस्य विस्तारं प्राह काश्यपः ॥”

Compare also the *Mānasāra*³³⁹ where $\frac{1}{8}$, $\frac{3}{8}$, $\frac{6}{11}$, $\frac{7}{18}$, and $\frac{9}{15}$ are stated as the proportions prescribed for the breadth of the Garbhagrha.

STANZA 19.

The thickness of the walls of the Sanctum.

The author in this stanza lays down the proportions relating to the other divisions of the Prāsāda, namely, the *Bāhya-Bhitti*, the *Āntarabhitti* and the *Madhyānāḍī*. The thickness of the outer wall is one-eighth of the breadth of the Prāsāda and the thickness of the inner wall is one-eighth of the breadth of the Garbhagrha. The passage that runs all around between the two walls is the Nāḍī. This passage is used generally for circumambulation. If the structure is too small, the two walls are combined into one thick wall. In this case the Nāḍī disappears. The proportions of the Bhittis and Nāḍī are based upon the authority of the *Mañjarī*, which observes:—

“ आरूढभित्तिर्विहिताष्टमांशैरेषां बहिः शिष्टमलिन्दमस्य ।
अष्टांशमानादथ बाह्यभित्तिर्भित्तिर्घना स्यादथवाल्पगेहे ॥”³⁴⁰

Compare also the following statement of the *Nibandhana*:—

“ आरूढभित्तिरष्टांशे बाह्याष्टांशेन वेश्मनः ।
परिशिष्टमलिन्दं स्याद् घना भित्तिर्गृहेऽल्पके ॥”³⁴¹

Note the *Śilparatna*, as usual, adopts the stanza.³⁴²

338. *Śilparatna*, Ch. XXI, Sts 2, 5 (T. S. S. Ed.)

339. *Mānasāra*, Ch. XIX, lines 113 to 119.

340. *Mañjarī*, Patala VI (Ms., Adyar Library).

341. *Śawāgama Nibandhana*, Patala XIII (Ms. from the Cochin State).

342. *Śilparatna* (T. S. S. Edition), XXI, 3.

STANZA 20.

An alternative disposition of Garbhā etc.

Two further alternative dispositions based on the authority of Gurudeva are described in the present stanza. The direction is given as follows:—In the case of an Alpaprāsāda divide the length and breadth of the Prāsāda each into five equal parts. There will result twenty five Padas or quarters. Mark out the central quarter. It will form the disposition of the Pīṭhikā or pedestal of the seat of the image. The immediate eight quarters that surround the central Pada will make the Garbhagrha. The sixteen quarters that surround beyond the Garbhagrha will provide disposition for the thickness of the Ghana-bhitti or thick wall. In this disposition, there will be no room for the Nāḍī and there will be no two separate walls of varying thickness such as Antarabhitti and Bāhyabhitti. There will be one wall enclosing the Garbhagrha and its thickness will be equal to the breadth of the external-most Paṅkti or row of divisions comprising the sixteen quarters.

In the second alternative mode of division, the length and breadth of the Prāsāda is to be divided into nine parts each. This will give 81 quarters. The inner-most quarter provides for the Pīṭhikā; the eight quarters surrounding will constitute the Garbhagrha. The third row consisting of 16 quarters will constitute the division for the inner wall, the wall of the Garbhagrha. The fifth and final row will provide for the external wall which is the wall of the Prāsāda. The fourth row which comes between the internal and the external wall will make for the Vīṭhikā or Nāḍī. At the centre of the external row will be constructed a door-way.

It deserves to be remembered here that in the case of structures coming under three, four and five cubits measure type, Nāḍī is disposed of and thick wall is considered desirable. But in temples which have larger measure, the introduction of Nāḍī is dictated by the exigencies of interior planning.

The following stanzas from the *Gurudevapaddhati*³⁴³ afford basis for the authority of the two alternative dispositions described above:—

“ व्यासेऽभिकृतिकोष्ठे स्यात् पीठं कोष्ठेन मध्यतः ।
तद्वह्निर्वसुकोष्ठानां षड्त्तया गर्भगृहं भवेत् ॥
कोष्ठषड्त्तया बहिर्मित्तिस्तत्र द्वारं तु कोष्ठतः ।

343. *Īśāna Gurudevapaddhati*, Kriyāpāda, Paṭala XXX, 54-58 (T. S. S. Ed.),

एकभित्त्येकतलकं दैवं धामेदमीरितम् ॥
 तद्वत् प्रासादविस्तारस्यैकाशीतिपदस्य तु ।
 मध्यस्थनवकोष्ठे स्यात् सपीठं गर्भमन्दिरम् ॥
 तद्बाह्ये कोष्ठपङ्क्त्या तु भित्तिं द्वारं च कल्पयेत् ।
 तद्बाह्यपङ्क्त्या परितः कल्पयेन्मध्यनाडिकाम् ॥
 प्रासादभित्तिं तद्बाह्ये पङ्क्त्या द्वारं च योजयेत् ।”
 “त्रिहस्ते तु घना भित्तिः पञ्चहस्तेऽपि वा तथा ॥”³⁴⁴

STANZAS 21 AND 22.

The Watercourse (Ambumārga) and the Waterchute (Pranāla)

The construction of the drain (*Ambumārga*) and its waterchute (*Pranāla*) forms the subject-matter of these two stanzas. The subject is considered from the point of view of the disposition, measurement and ornamentation of the *Pranāla*. *Pranāla*, the waterchute, is to be distinguished from *Ambumārga*, the mere drain. *Pranāla* is accompanied by the watercourse, *Ambumārga*. Thus the commentator Śaṅkara remarks ‘जलयात्रामार्गयुक्तं प्रणालं रचयतु’³⁴⁵. *Ambumārga*, the drain is the channel that is made inside the wall and it runs along the top-surface of the *Adhiṣṭhāna* at the end of its *Prati* or *Gala*. It may be open or closed. It terminates in the projecting member which is the waterchute, *Pranāla*. The *Pranāla* which projects outside starts from where the drain inside the wall ends. Half of it is fixed in the wall and the remaining half is kept projecting outside. It is a spout, open at the extremity and the shooting part serves to throw out water. *Ambumārga* and *Pranāla* serve in carrying and throwing out the waste water that flows when the image and the interior parts of the structure are washed and cleaned.

The author first deals with the position of the water-drain within the enclosure. It is made at the end of *Prati* or *Gala* and its facing is directed northwards. Thus it is situated on the left side of the image which ordinarily faces the East. It runs along the *Madhyasūtra* i.e. near the middle of the north-south line. The right centre of this line is avoided and the *Pranāla* is made to move slightly eastwards from the

344. T S Vimarśinī, p 59

345. *Tantrasamuccaya* with Vimarśinī (Part I). See Vimarśinī, page 59. (T S S. Ed.).

centre of the north-south line. This small deviation from the centre of the line towards the East may cover up a distance which is $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{10}$, or $\frac{1}{11}$ etc., of the length between Soma and Īśāna.

The length of the waterchute is relative to the height of the Adhiṣṭhāna. The length of the portion that projects outside the wall may be equal to, or three-fourth of, or half of the height of the Adhiṣṭhāna, while half of this length constitutes the portion that is kept inside the wall. Its breadth is then prescribed with reference to its base and its extremity. That at the base will be one-third, one-fourth, or one-fifth of its length, and that at the extremity will be one-third etc. of that at the base. Half of this breadth, or three-fourth of or equal to the same is its thickness. The shape of the waterchute is not expressly stated, but is implied and the whole description tends fittingly towards a rectangular waterchute tapering at its outer extremity. The consistent use of the terms '*vitati*,' '*vistāra*,' etc., which strictly and directly mean the 'breadth,' is in favour of this suggestion, and, here as in other contexts, the treatment appropriately refers to square or rectangular forms of construction. Other shapes such as the circular or the many-faceted, it might be presumed from this fundamental fact, are only developments and modifications from the original square or rectangular shape. Instances of round and faceted waterchutes are not, however, found lacking. Whatever might be the shape intended, rectangular or any other, the proportion concerning the length and breadth of the waterchute is relative, and it must, hence, be scrupulously maintained. The breadth of the passage for water is one-third that of the waterchute.

The ornamentation of the Pranāla (waterchute) is next described. The spout must look springing from the open mouth of a '*Vyāla*' (a ferocious fabulous animal) and its extremity must resemble the '*Gomukha*' (the face of a cow). Thus the open mouth of a Vyāla decorates the base of the spout while its extremity is carved in the form of a cow's head. Wreathes of pearls, creepers, bangles and other ornamental patterns must encircle it. Śunḍu or the trunk of an elephant is another ornamental motif that might adorn the spout. Thus from start to finish, the spout is characterised by rich decorative quality and the whole construction of it is integrally bound up with rhythmic flowing ornament, diverse in its modes of expression. It is the unique feature of Indian architecture that it is indistinguishable from sculpture. So synthetically is sculpture knit to structure, that ornament of every kind, though something added on to architecture, appears to grow inevitably out of it.

The following quotations from authorities either confirm or amplify what has already been dealt with in our text on the subject of *Praṇāla*. It is thus observed in a *Tantra*³⁴⁶ :—

“ घाघ्नः प्रतिग्रीवगसोमसूत्रात् प्रादन्तभागं प्रविधाय तेषु ।
 द्व्येकं शिवे द्वित्रि हरौ त्रिपञ्चशेषेष्वतीत्योदकमार्गसूत्रम् ॥
 प्रतेः पुरोऽर्धं वसुनन्ददिग्भिर्विभज्य भागेष्वखिलमराणाम् ।
 एकैकभागं समतीत्य कुर्याद् विचक्षणो गोमुखमध्यमत्र ॥
 स्यात् कुट्टिमं गोमुखदीर्घमानं पादोनितं वा तदथार्धयुक्तम् ।
 व्यालाननं स्यादिह शुण्डुभेदो मणिश्च वल्लीपरिशोभितं च ॥”

Kāśyapa speaks of the length of the spout with reference to the *Angula* measure. Accordingly, it may be 12, 15, 18, 21, or 24 *angulas*, while its breadth may be 8, 10, 12, 14, or 16 *angulas*. Ups and downs must be avoided and the watercourse must be even. At its extremity the spout will be slightly sloping downwards. On the base of the spout must be added the carving of the mouth of a lion. The following text of the *Kāśyapaśilpa*³⁴⁷ will amplify the topic :—

“ भान्वङ्गुलं समारभ्य गुणाङ्गुलविवर्धनात् ।
 चतुर्विंशङ्गुलं यावत्तत्पञ्चविधं तथा ॥
 भित्तिबाह्यगतं ह्येव तस्यार्धं गर्भगेहके ।
 वेशयित्वाऽथ वा भित्तेर्ह्यन्तरसमं तु वा ॥
 वस्वङ्गुलं समारभ्य द्विद्व्यङ्गुलविवर्धनात् ।
 कलाङ्गुलावसानं तु विस्तारं पञ्चधा क्रमम् ॥
 तन्मूलं तारपञ्चांशं त्रयांशं त्वग्रविस्तृतम् ।
 तद्विस्तारसमं पाया(दा)त्रिपोदं वाऽथ तद्वधनम् ॥
 विस्तारस्य त्रिभागैकं च्छिद्रतारोन्नतं तथा ।
 ना(लं)लमध्ये तु कर्तव्यं निम्नोन्नतविवर्जितम् ॥
 [मूलादग्रं नतं किञ्चिन्मूलं सिंहास्यबन्धितम् ।]
 मूलादग्रोन्नतं किञ्चिन्मूलं हंसस्य चान्वितम् ।

346. Quoted in the *Vimarśinī*, vide the *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.) Part I, pp. 59-60.

347. *Kāśyapaśilpa*, Patala VII, stanzas 3-9 (*Ānandāśrama* Series).

गजोष्ठसदृशलम्बी यथा सुन्दरमाचरेत् ॥
 व्यालो वा सिंहभूतो वा नालं धृत्वा तु संस्थितः ।
 नालमेवं प्रकर्तव्यं सौम्यं प्रासादमध्यगम् ॥”

Compare also the following lines from the *Mayamata*³⁴⁸ :—

“ द्वादशाङ्गुलमारभ्य त्रिच्यङ्गुलविवर्धनात् ।
 चतुर्विंशद्गुलं यावदायामं पञ्चधा भवेत् ॥
 अष्टाङ्गुलं समारभ्य द्विद्व्यङ्गुलविवर्धनात् ।
 तारं षोडशमात्रान्तं पञ्चधा परिकीर्तितम् ॥
 समं त्रिपादमर्धं वा घनं छिद्रं तु मध्यमे ।
 त्रिचतुष्पञ्चषण्मात्रं तारं तत्समनिम्नकम् ॥
 मूलात् पञ्चत्रिभागं स्यादग्रं धारासमन्वितम् ।
 घटितं सिंहवक्त्रेण किञ्चिन्मूलान्नताग्रकम् ॥
 एवं नालं प्रकर्तव्यं वामे प्रासादमध्यमे ।
 अन्तःपीठस्य नालस्य समं वा बहिरिष्यते ॥”

The statement of the *Gurudevapaddhati*³⁴⁹ given below may also be compared :—

“ जगत्पञ्चगुलमारभ्य त्रिच्यङ्गुलविवर्धनात् ।
 आसाङ्कृत्यङ्गुलं नालस्यायामः पञ्चधा स्मृतः ॥
 मयोऽष्टाङ्गुलमारभ्य द्विद्व्यङ्गुलविवर्धनात् ।
 नालं (तारं) षोडशमात्रान्तं पञ्चधेति जगाद ह ॥
 समं त्रिपादमर्धं वा खनच्छिद्रं तु मध्यमे ।
 त्रिचतुष्पञ्चतन्मात्रं तारं तत्समनिम्नकम् ॥
 मूलात् पञ्चत्रिभागं स्यादग्रं धाराभिरन्वितम् ।
 सिंहवक्त्रेण घटितं द्वाङ्गुलान्नताग्रं तु मूलतः ॥

348. *Mayamata*, Ch. XIX, sts 25-29 (T. S. S. Ed.).

349. *Īśāna Gurudevapaddhati*, Kriyāpāda, Uttarārdha, Patala XXXII, stanzas 91-95 (T. S. S. Ed.).

प्रासादस्योत्तरे मध्ये नालमेवं प्रकल्पयेत् ।
अन्तःस्थपीठनालस्य समं वा बाह्यनालकम् ॥”

The *Mānasāra*³⁵⁰ devotes about 9 stanzas to this topic of *Pranāla*.

This treatment brings us to the close of the section of *Adhiṣṭhāna*. The subject that is next dealt with upon is ‘*Stambhavidhi*.’

STANZAS 23 TO 25.

Pillars.

Now, we pass on to the theme of pillars, one of the most important of architectural subjects. Among the structural divisions of a temple, the columns come above the *Prati* (the top-most moulding of the base-ment) and below the *Uttara* (the lowest portion of the entablature). While the effect produced by the horizontal members *Adhiṣṭhāna* and *Prastara* is one of stratified stability, the impression created by the columns is one of height and of manifest ease in sustaining the pressure of the structural parts that are situated above such as the entablature, the rafters and the roof. The pillars are spaced at equal intervals apart so that the weight supported is equally distributed among them. By their vertical feature, they produce the impression of elevation and by their number and disposition at equi-distance and the consequent distribution of the weight sustained, they perform their structural function of carrying the beam and the load above with ease and lightness.

Stambha, *Pāda*, *Jaṅghā*, *Carana*, *Aṅghri*, *Sthāṇu*, *Sthūpa*, *Talipa*, *Kampa*, *Skambha*, *Bhāraka*, *Dhāraṇa*, *Araṇi*, (S) *talī* are all synonyms found mentioned in the various architectural treatises such as the *Mayamata*, *Gurudevapaddhati*, *Mānasāra*, etc. Thus the *Mayamata* states³⁵¹ :—

“स्थाणुः स्थूणश्च पादश्च जङ्घा च चरणोऽङ्घ्रिकः
स्तम्भश्च तलिपः कम्पः पर्यायवचनानि हि ॥”

And the *Gurudevapaddhati* gives the following³⁵² :—

“स्तम्भाः स्थूणास्तथा पादाः कुम्भाः कम्पाङ्घ्रयोऽपि च ।
स्तम्भपर्यायशब्दाः स्युरथ तल्लक्ष्यं कथ्यते ॥”

350 *Mānasāra*, vide Chapter XIX, lines 162-180 (P. K. Ācārya's Ed.).

351. *Mayamata*, Ch. XV, St. 2

352 *Īśāna Gurudevapaddhati*, *Kriyāpāda*, *Uttarārdha*, *Patala XXXI*, St. 19(2), 20(1) (T. S. S. Ed.).

The *Mānasāra*³⁵³ enumerates twelve synonyms:—

“ जङ्घा च चरणं चैव स्तली स्तम्भमङ्घ्रिकम् ॥
स्थानुं स्थूणं च पादं च क(स्क)म्भमारणि भारकम् ।
धारणं द्वादशं नाम पर्यायोक्तं पुरातनैः ॥”

Here the adoption of such synonyms as *Pāda*, *Janghā*, *Carana*, and *Aṅghri*, which in ordinary writings denote the leg and in architectural treatises the pillar, echoes the human organism and confirms the theory of the basic conception of Hindu architecture in terms of the human organism. Weight, pressure and resistance form part of our habitual bodily experience and the same form of activity is also exhibited in the function of horizontal and vertical members of a building. Just as in the human body the weight of the head and the trunk is borne by the legs, so in a structure the crushing pressure of the entablature and the roof is upheld by the pillars. The synonyms *Bhāraka* and *Dhāraṇa* also tell us the same thing about the structural activity of the pillars. Of the various members of a structure, the main bearing ones (excluding the *Upapītha* which is an optional element) are the *Adhiṣṭhāna*, the *Stambha* and the *Prastara*. *Uttara* (the beam), which sits on the pillars, in its turn, functions as a resting place for the rafters and the whole roof. *Stambhas* which stand immediately below the *Uttara* and upon the basement, uphold the horizontal beam (*uttara*) together with the weight it bears. The pillars being many and erected at intervals, they resist this crushing weight with ease and without effort. This whole accumulated weight stands upon the basement (*Adhiṣṭhāna*), the most solidly constructed member of a building. Thus, in the science of Architecture, one might observe enormous operations and balancing of forces involved, and weight, pressure and resistance exhibited in the functions of structural parts.

Dr. Ācārya lends too much of importance to the function of pillars. In his thesis on “*Indian Architecture*” he makes the following remarks while dealing with the chapter on Similarity in Columns:—“This is a crucial point; because the column in a building is stated by authorities to be the regulator of the whole composition, and it is the one feature of the ancient architecture, which illustrates its rise and progress as well as its perfection and weakness”.³⁵⁴ It is true that this structural element functions in the regulation of the structure, but it is not the only governing factor in a building. Other parts we have observed

353. *Mānasāra*, Ch. XV, lines 4-6 (P. K. Ācārya's Ed.).

354. *Indian Architecture*, page 150.

such as the basement and the entablature serve equally in the regulation of the structure. Only when all these parts discharge their respective functions does the composition become complete. Each member, in the fulfilment of its allotted function, thus gains unmitigated importance and becomes as much the regulator of the composition as any other. Columns, as a feature, appear prominently and in increasing number where the structure is a large hall like the congregational church of the Western architecture. A Hindu temple in contradistinction to a western congregational structure, is an abode for the deity and not a hall for mass prayer. It is not intended to accommodate the large mass of devotees. The Pūjā that is conducted inside is both sacred and secret in character. As for those who assemble for prayer, there is a special hall constructed, known as Arcanāmandapa, and this is an accessory structure. It is open on all the sides. But the main shrine is enclosed by thick walls and corresponding to the limited and restricted usage of the structure, it is small in extent and short in the span of its roof. It is more closed and less spacious than a congregational structure. In a structure of this restricted kind the role of columns does not appear to acquire so prominent a feature as in a hall of considerable space and size. In all examples of existing sanctums regular pillars are conspicuous by their absence, and their structural function of bearing the beams and the load above is carried out by the element of walls that enter into the composition of the main shrine. In such cases, the wall performs the double function of enclosing the sanctum as well as of carrying the pressure of the beam and the roofing. Here, pillars lose their regular structural function and are reduced to either pilasters joined to the wall presenting a flattened appearance or to mere ornamental motifs decorating the surface of the wall. In such instances of structures the problem of the importance of pillars does not crop up. Pillars, however, retained their original and structural importance before walls stepped into their structural province. An investigation into the origin and development of pillars and walls of an Indian shrine unfolds this interesting feature of Indian temple architecture.

In very early times, when the structure was simple and worship open, the main elements of a religious edifice seem to have been a basement (containing probably an altar or seat of the object of worship), columns, beam and roofing. In such simple beginning, architecture, here as elsewhere, was influenced in its expression by the materials used. In a land of forests like India wood is the chief material readily available and easy of being worked out. So, in its inception, Indian architecture was essentially wooden in character. Tree trunks give to wooden

construction an upright and straight feature and as Prof. H. Kishida³⁵⁵ observes, 'straight line is the most rational when the material used is wood.' Vertical and horizontal elements such as the columns and the beam possess a necessarily straight character whose impact is discernible in the regular design of the structure. Straight elements always tend to fashion a building square or rectangular in shape. Thus in Indian architecture, influenced by the first chief material wood that entered into its composition, the original shape was rectangular or square. The tenor of the description of a regular shrine as shown by ancient Indian texts on architecture, also supports this view, namely, the square design of a regular shrine. The progress of architectural growth has always been towards greater stability of structure and greater durability of material. Wood is combustible and easily susceptible to decay. Stone, on the other hand, is more lasting than timber and incombustible as well. So, where greater permanence was required, stone took the place of wood. Though stone came to be substituted for wood, the wooden feature was maintained and was gradually translated in stone works. Some examples³⁵⁶ of stone work echo wooden character and indicate how wooden frameworks served as prototypes for later constructions in stone. In the case of temple architecture, this progress in the use of materials from wood to stone seems to have been occasioned by the development of the form of worship. The cult of worship, which was probably originally open and simple, in the course of time appears to have become sacred and secret. Rites and ceremonials connected with the conduct of Pūjā became more and more elaborate, more and more gorgeous. Images were carved of gold and other precious metals, and were decorated with rich ornaments studded with most precious jewels. Articles prepared out of the most valuable materials were set to the service of the deity. The whole paraphernalia of such a splendid cult of worship, the incalculable riches that accompanied the elaborate mode of service which under the Tāntric aspect gained a secret character necessitated protection and careful screening. In this stage of development of the manner of divine service stone, more stable than wood, appears to have taken the place of wood. Thus the introduction of stone walls in all probability was the outcome of a necessity to protect the riches that the sanctum contained and to screen the secret rites conducted inside. Since the walls were situated, like the pillars, from above the basement to below the *uttara* they gradually took to themselves the structural function of pillars. The placing of the wall above the *Prati* and below the *Uttara* as described by the *stanza*³⁵⁷:—

355. *Japanese Architecture* by H. Kishida, p. 26.

356. For instance see the *Amarāvati* slab preserved in the Madras Museum.

357. *Tantrasamuccaya*, *Patala II*, *Stanza 36*.

‘ प्रत्युत्तरान्तर्विरचय्य मितिम् ’ is the same as the disposition of the pillars, which is also prescribed in the stanza ‘ स्तम्भाः कोणचतुष्कमध्यविनिवेश्याः ’ etc. (St. No. 23) as above the Prati and below the Uttara.

STANZA 23.

The Number and Disposition of Columns.

Though walls have the same disposition as pillars have, they do not seem originally to have been intended to carry the function of pillars. The tenor of our author's treatment on the subject of pillars and walls indicates this fact. The pillars are described next to Adhiṣṭhāna. The description of walls (Bhittis) follows the description of columns, and naturally the construction of pillars is implied to take place first before the building of the walls is undertaken. It is explicitly stated in the last quarter of the stanza: ‘ स्तम्भाः कोणचतुष्कमध्यविनिवेश्याः स्युः प्रतेरुर्ध्वतः ’ that upon the pillars should be placed the Uttara (एवंपर्येचोत्तरम्). In the view of our author, as indicated by the stanza ‘ स्तम्भाः कोणचतुष्कमध्यविनिवेश्याः ’ etc, walls do not appear to enter into the structural province of pillars. The pillars that are found described in the text are regular structural ones. Their description is applicable to columns of the main shrine and may be extended as well to those of the accessory structures, such as the Arcanāmandapa. Their disposition is first dealt with. They stand on the topmost moulding of the basement and carry the Uttara, the beam which is the lowest portion of the entablature. In the case of temples of ordinary measure they are stated to be twelve in number. Four stand at the four corners of the basement, and two on each of the four sides. Their inter-space is said to be equal. Their number rises up to twenty in structures which come under eleven and odd cubits type of measure. They admit of different shapes and ornamentations and on this basis they produce variety which is dealt with in the subsequent stanza. When these twelve or twenty pillars are constructed as described above and made to bear the Uttara, the intervening space that is left between them demands a covering sufficient to protect the riches that are kept in the sanctum and to keep the secret character of the Pūjā performed inside. Thick walls serve both these objects and hence they constitute the next subject of treatment. They are made to cover up the intervening space open between the pillars. In this manner of composition both the elements discharge their respective functions, pillars in bearing the Uttara and walls in enclosing the sanctum.

Walls do not appear here to interfere with the function of pillars, for, even if felled, they would not cause destruction of the structural frame of the temple. At a later stage, however, walls may be said to have entered also into the structural province of pillars and reduced them to the position of being added to the wall either to give it projection or to ornament its surface. Such walls are much in evidence to-day in existing sanctums.³⁵⁸ When walls came in and covered the interspace between pillars, pillars produced the impression of pilasters. Thus the commentator Śaṅkara remarks at the opening commentary on this stanza :³⁵⁹—‘कुव्यस्तम्भस्थापने नियममाह—स्तम्भा इति’. From the actual details furnished in the text, it is abundantly clear that in the view of the writer of the *Tantrasamuccaya* walls constituted an element that is added to columns. Embraced on either side by the wall, the pillars look for the most part buried in it, but they are regular and structural in their function as originally conceived. In their role as pilasters, they leave to the gaze of the observer abutments or projections at corners and key points of the wall. In this aspect they stabilise the wall and stand to receive the pressure that falls from above with an air of ease and lightness.

The term ‘सामान्येन’ is interpreted by the commentator to mean the general rule of measure as three cubits etc. ‘सामान्येन त्रिकरादिषु (सुरविमानेषु)’ says³⁶⁰ he. It is thus taken to qualify ‘सुरविमानेषु’. If it is taken to qualify ‘समान्तराः’ it would yield a different meaning. It would mean that the interspace between pillars need not always be exactly equal. The idea, however, is opposed to what other authorities have laid down. The *Nibandhana* thus warns us against the unequal interspace which, it is believed, would result in the destruction of the structure. The *Mānasāra*³⁶¹ also prescribes that pillars should be erected at a uniform distance from one another.

With regard to the arrangement of the twelve pillars the Vivaraṇakāra offers two suggestions. The first is that four pillars should be erected at the four corners and two on each face (between the two corners on each side). He thus observes : ‘चतुर्षु कोणेषु एकैकं, अन्तरा द्वौ इति द्वादश’. The second is that there should be four pillars at the four corners,

358. In the renovated temple at Tripunittura, it is said that the frame-work is original and built in accordance with the directions of the *Tantrasamuccaya*.

359. *Tantrasamuccaya*, Part I, page 61 (T.S S Ed.).

360. *Ibid.*

361. *Mānasāra*, Ch. XV, lines 363-365.

and on each side three. Here, the central pillar will be split up into two halves, and two such half-pillars would stand on each side of the Ghanadvāra. It is thus said in the *Vivaraṇa* :

“ यद्वा कोणे चतुष्कमन्तरा त्रयस्त्रयस्तम्भाः स्युः ।
तत्र पक्षे मध्यमस्तम्भं द्विधा कल्पयित्वा घन-
द्वारममितः द्वौ द्वौ अर्धस्तम्भौ भवतः ॥”³⁶²

It is not known from which source this idea is drawn. The former interpretation meets with general approval. Śaṅkara also tells us the same idea in the words :

“ कोणानां चतुष्के तन्मध्ये द्वौ द्वौ च निवेश्याः ॥”

The following stanzas from the *Nibandhana*³⁶³ deserves to be quoted in this connection, for with regard to number and disposition there is consensus of opinion:—

“ द्वादशैव चतुष्कोणमध्यस्थाः कुड्यपादकाः ।
एकादशकरे स्तम्भा विशतिर्मण्डनान्विताः ॥
समाः स्तम्भान्तराः सर्वे प्रासादे सार्वदेशिके ।
विषमस्तम्भभागं तु वास्तु वस्तुविनाशनम् ॥”

The combination of pillars and walls has resulted in the pillars being described as Kuḍyapādas. Thus the *Mañjarī* observes³⁶⁴ :—

“ गेहो द्वादशकुड्यपादकलितो हस्तैस्त्रिभिर्निर्मितो etc. ॥”

STANZA 24.

The Shape and Ornamentation of Columns.

We have already observed the rules³⁶⁵ relating to the height and breadth, the number and disposition of Indian pillars. Now we shall take into account the topic of the shapes of pillars and their ornamen-

362. *Tantrasamuccayavivarana*, Ms. R. No. 1994, Government Oriental Mss. Library, Madras.

363. *Śaṅgama Nibandhana*, Patala XIII (Ms. from the Cochin State).

364. *Prayogamañjarī*, Patala VI (Ms. from the Adyar Library, Madras).

365. *Tantrasamuccaya*, Patala II, Stanzas 8, 9, 10, 23 (T. S. S. Ed.).

tations. The present stanza deals with the shapes of columns. Columns are of many kinds and their variety is based upon their difference in shape and ornamentation. They admit of shapes which are uniform or mixed. Our text prescribes four uniform shapes square, octagonal, sixteen-faced and circular; and two mixed shapes square combined with octagonal and square combined with circular. The column may be made completely four-faced, eight-faced, sixteen-faced or circular; or it may be made square in the lower portion which extends up to three times the *vistāra* of the pillar and octagonal in the portion above, which is equal to the portion below (i.e., three times the *vistāra*), or, it may be made square up to the portion in the height of the pillar which measures as much as the diagonal of the pillar, and in the above portion, circular. The mixed types refer to octagonal and circular super-impositions on a square base. The terms '*Vistāra*' and '*Karṇasūtra*', the former meaning 'breadth' and the latter 'diagonal' at the base of the pillar, are suggestive of the square base of the pillars of mixed shape. These terms are employed here in connection with the measurement of the height of the lower and upper portions of the pillar when the pillar is composed of mixed shapes. '*Vistāra*' and '*Karṇasūtra*' (breadth and diagonal), imply a square base as distinct from a circular one. If the base were circular, the author would have referred to the diameter, and not to the breadth and the diagonal. *Vistāra* and *Karṇasūtra*, here referred to in connection with the mixed shapes, suggest that, unless explicitly stated, the base of a column of mixed shape will always have a square shape. With respect to the first type of mixed shape, the height of the octagonal portion is said to measure three times the *vistāra* of the pillar. Nothing has been stated with reference to the portion from above this octagonal super-imposition up to the top, if any portion is so left. In such instances, where the shape is not defined, the shape implied must be taken as square. Concerning the question of ornamentations, the author simply states that the pillars should be adorned with such decorative patterns as the *śundodbheda*, *ṛtta* etc. '*Śundodbheda*' refers to the split bamboo or reed. '*Vicitravṛtta*' probably refers to the different types of Valayas and such other round decorative motifs. *Śundodbheda*, split bamboo or reed, will be concave in form. The ornamental patterns which are concave and round in design, are characteristic ornaments of circular pillars, and, when applied to them, make the pillars exceedingly handsome to behold. Having thus dealt briefly, but plainly and pointedly, with the theme of shapes and ornamentations, the author in the last quarter of the stanza strikes a general note that reveals the fundamental principle of fine composition. The pillars constructed, says the author, should befit the structure under

construction. When a variety of shapes and ornamentations is presented, it is the primary concern of the architect to select such of those types as would conform to the nature of the structure and express its character. Thus, if the structure is highly ornate in its character, the ornamentations chosen to adorn the pillar must be of a high quality consistent with the nature of the Prāsāda. More important than ornament is the shape, which constitutes the fundamental basis of classification of the styles of Indian architecture. In the three styles of Indian temple architecture known as Nāgara, Drāviḍa, and Vesara, differentiation is made from the point of view of shapes and their mixture. Square characterises the Nāgara style, circular the Vesara, and octagonal or hexagonal or many-faceted the Drāviḍa. Of these the Nāgara is purely square throughout from the basement to the top; but with regard to Drāviḍa and Vesara, the shapes may be both pure and mixed. Where it is mixed, the basement is always square. The shape of the Drāviḍa shrine may thus be either purely octagonal or octagonal mixed with square, and the shape of the Vesara temple may be either wholly circular or combined with square. Since in the pure square type and in all mixed types square is uniformly present at the basement, it is generally laid down that the basis of differentiation of a style of temple is the shape of the Śikhara. In conformity with the principle of composition that all parts must agree with the whole, we here observe that the shapes of parts, as implied by the expression 'ārabdhagehōcitāḥ', must agree with the shape of the whole. The presence of square pillars in a Nāgara shrine, of circular or those having a square base and circular superimposition in a Vesara shrine, of octagonal or hexagonal ones or those having a mixed shape of square with octagonal in a Drāviḍa temple is consistent with the principle of harmony which the qualifying word 'आरब्धगेहोचिताः' embodies. Variety with respect to shapes of columns was not introduced without any end in view. Its legitimate source lies in the fundamental principle of harmony whose note has been struck by the author in more than one context. Variety unfolds, here as elsewhere, types best fitted to emphasise the character of the structure and to mark its particular style of composition.

The treatment by our author of the subject of shapes and ornamentations of columns, when compared with that found in other texts of other writers, is brief, but pointed. Works like the *Nibandhana*, *Mañjarī*, *Kāśyapaśilpa*, *Mayamata*, *Gurudevapaddhati*, *Mānasāra* etc., furnish fuller details and contain the names of the various kinds of pillars. Our author has taken into account a few of the varieties which are more elaborately treated in other works. The types dealt with, though few comparatively, are logically considered and they constitute

the fundamental ones. The names of columns as given in the various treatises, with the exception of a few, are found to vary. The silence of Nārāyaṇa with regard to the nomenclature of the types of columns is particularly significant in view of the latitude enjoyed by all authors. His silence has avoided divergence between him and other writers and on the point of principles on the other hand is found an essential consensus of views. Our author is thus seen in agreement with other authorities in the matter of fundamentals and in the criteria of classification. He has never failed to take into account what is important from the point of view of the structure. The varieties of columns described in the text, when compared with those described and named in others, bear the following names. That pillar which is wholly square is called 'Brahmakānta' in the *Mayamata*, *Kāśyapaśilpa*, *Gurudevapaddhati* and *Mānasāra*, while it is called 'Turyaśra' in the *Nibandhana* and *Mañjarī*. That which is uniformly octagonal is termed 'Visukānta' in the *Mayamata*, *Kāśyapaśilpa*, *Gurudevapaddhati* and *Mānasāra*, whereas in the *Nibandhana* and *Mañjarī* it is called 'Sarvāstāśra'. The uniformly sixteen-faced one is called 'Saumya' in the *Mayamata*, 'Candrakānta' in the *Kāśyapaśilpa* and *Gurudevapaddhati*, 'Rudrakānta' in the *Mānasāra* and 'Ṣoḍaśāśra' in the *Nibandhana* and *Mañjarī*. The uniformly circular pillar is known as 'Rudrakānta' in the *Mayamata*, *Kāśyapaśilpa* and *Mānasāra*, 'Īśakānta' in the *Gurudevapaddhati*, and 'Vṛttapāda' in the *Nibandhana* and *Mañjarī*. With regard to the proportions of mixed shapes, the author is found to closely agree with the authors of the *Nibandhana* and *Mañjarī*, and hence the details given in the latter, when quoted, will serve to amplify the statement of our author. In these two works, the column composed of the two shapes square and octagonal is called 'Madhyaśra' and square and circular 'mūlāśra.'

The *Mayamata*³⁶⁶ states :—

“ कर्णमात्रेण तन्मूले चतुरश्रमितोर्ध्वतः ॥
 अष्टाश्रं वा द्विरष्टाश्रवृत्तं पूर्वाश्रमोरितम् ।
 कुम्भमण्डियुतं वापि रुद्रकान्तं सुवृत्तकम् ॥
 विस्तारद्विगुणं मध्येऽष्टाश्रयुक्तं युगाश्रकम् ।
 वियुक्तं कुम्भमण्डिभ्यां मध्येऽष्टाश्रं तदुच्यते ॥
 चतुरष्टाश्रवृत्ताभं रुद्रच्छन्दसमांशतः ।”

366 *Mayamata*, Ch. XV, stanzas 14(2), 15, 16, 17(1) (T S S. Ed.).

Gurudeva³⁶⁷ observes:—

“ मूले वेदाश्रकश्चोर्ध्वं षोडशाश्राचलङ्कृतः ।
 स्यान्मूलचतुरश्राख्यः पद्मापद्मासनः स्मृतः ॥
 मूलान्त्ययोस्तु वेदाश्रो मध्ये अष्टाश्रचलङ्कृतः ।
 वज्रकान्तः स विज्ञेयो मुक्तास्तम्भः समौक्तिकः ॥”

Mānasāra is silent with regard to the nomenclature of pillars of mixed shape and he also does not state the proportions of the shaped portions of pillars of mixed shape. He, however, allows that in columns of any shape, pure or hybrid, the base may be square. The seventh variety of pillar described in our text is not purely circular, but round, associated with the broken reed. It is hence treated separately from the point of view of its distinctive decorative motif which enters into the composition of the circular pillar. It is called ‘*Sundupāda*’ in the *Nibandhana*, *Mañjarī*, *Mayamata*, *Kāśyapaśilpa* and *Gurudevapaddhati*. This type is not found mentioned in the *Mānasāra*.

From a comparative study of the different nomenclatures adopted by different authors, we observe that the names given in the *Mānasāra*, *Mayamata*, *Kāśyapaśilpa* and *Gurudevapaddhati* are all adoptions from the mythological literature. The various names thus adopted are indicative of the numerical significance associated with the various names of mythological deities. The names employed by the authors of the *Nibandhana* and *Mañjarī*, on the other hand, are literally descriptive and convey their primary significance, divorced completely from the whole mythological background. Our writer, in the wake of the authors of the *Nibandhana* and *Mañjarī*, is plain and pointed, and in the course of his treatment avoids clash of any kind with the other writers who furnish meticulous details and a host of names which vary often-times in the various treatises. The result of such a line of treatment is that the author becomes one with others in all essentials and fundamentals of the subject. There is clearer apprehension and more lucid definition of form displayed in the treatment of these three authors. In his thesis on ‘*Indian Architecture*’ Dr. Ācārya compares the Western system with the Indian, and observes that the Indians selected mythological names, because they were “more religious and sentimental than critical in temperament and imagination.”³⁶⁸ Truly the Indians were un-

367. *Īśāna Gurudevapaddhati*, Uttarārdha, Patala XXXI, stanzas 27, 28 (T. S. S. Ed.).

368. P. K. Ācārya’s *Thesis on Indian Architecture*, page 151.

surpassed in their achievements in the field of religion and mythology. But in their critical and intellectual endowment they never were found lagging behind and suffering in comparison with any other gifted race. Their principles of architecture bear ample testimony to this fact, and in both the theory and practice of the science of architecture there is revealed conscious logical thought, a keen sense of structural propriety and an essential critical judgment. The characteristic mythological bent of the Hindus has not displaced or caused to dwindle the supreme intellectual endowment of the Hindu architects. The line of approach adopted towards the subject of columns by the authors of the *Nibandhana* and *Prayogamañjarī* and *Tantrasamuccaya* is perfectly logical and critical, and the other authorities for the mere reason of their having adopted the mythological names are not found less critical than the western writers in their elucidation of the principles of architecture, born as are these principles out of well-ordered thought.

Other authors like Maya, Kāśyapa, Gurudeva and Mānasāra are more varied and detailed in the classification of columns from the point of view of their different shapes and ornamentations. Thus the *Mayamata*³⁶⁹ prescribes the varieties called Brahmakānta, Viṣṇukānta, Indrakānta, Saumya, Rudrakānta, Pūrvāstāśra, Madhyeṣtāśra—all these from the standpoint of shape; and Padmāsana, Bhadraka, Śuṇḍupāda, Piṇḍipāda, Citrakhaṇḍa, Śrīkhaṇḍa, Śrī Vajrastambha and Kṣepanastambha—all these on the basis of the dominant ornamental designs which enter into their composition. The following general statement³⁷⁰ is also laid down in the course of the treatment:—

“व्यालेभसिंहभूतादिमण्डितं यत्तु मूलतः ।
यथेष्टाकृतिसंयुक्तं तत्तन्नाम्ना समीरितम् ॥”

Gurudeva³⁷¹ describes the types known there as Brahmakānta, Viṣṇukānta, Skandakānta or Indrakānta, Bhānukānta, Candrakānta, Īśākānta, Rudrakānta, Bhadrakānta, Śuṇḍupāda, Bhiṇḍipāda, Mūlacaturaśra, Padmāsana, Vajrakānta, Muktaśambha, Citrakhaṇḍa, Śrīkhaṇḍa, Śrīvajra, Paṭṭakṣepana, Daṇḍapāda, Vajrapāda and Ulūkhala-pāda. Here also a general statement³⁷² is found:—

“व्यालेभसिंहभूतैस्तु मूले यः परिमण्डितः ।
इष्टाकारस्तथैवोर्ध्वं तत्तत्कान्ताह्वयो भवेत् ॥
यद्बलश्चित्तितस्तम्भस्तत्तद्बलाह्वयो भवेत् ॥”

369 *Mayamata*, Ch. XV, stanzas 13-27 (T. S. S. Ed.).

370. *Ibid.*, St. 20.

371. *Gurudevapaddhati*, Uttarārdha, Patala XXXI, stanzas 20-32.

372. *Ibid.*, 25, 29⁽¹⁾ (T. S. S. Ed.).

Kāśyapa³⁷³ in Paṭala VIII describes the varieties called there by the names Brahmakānta, Viṣṇukānta, Indrakānta, Candrakānta, Rudrakānta, Padmapāduka, Vyālapāduka, Gajapāda, Śuṇḍupāda, Piṇḍipāda, Chatrakhaṇḍa, Śrīvajrastambha, and Kṣepaṇastambha.

In the *Mānasāra*³⁷⁴ the columns mentioned according to their shapes are Brahmakānta, Viṣṇukānta, Rudrakānta, Śivakānta, Skandakānta, and according to their ornamentations Citrakanṭha, Padmakānta, Citras-kambha, Pālikastambha and Kumbhastambha.

In the *Matsyapurāṇa*³⁷⁵ and in the *Brhatsamhitā*³⁷⁶ pillars classified according to their shapes are called by a different terminology altogether, the names mentioned being 'Rucaka' for square, 'Vaira' (in Matsya) and 'Vajra' (In BrhatS) for octagonal, 'Dvivajra' for sixteen-faced, 'Pralīnaka' for thirty-two sided, and 'Vṛtta' for circular.

Since it would be extremely tedious to quote here the technical description as supplied by the several authors above mentioned, of the various types in which the several sorts of columns are classified from the points of view of their shapes and adornments, we shall pass them over here, and quote for the purpose of amplification and comparison of details the following lines from the *Nibandhana* and *Mañjarī*; for the author's treatment is found closely to agree with the details contained in these two texts :—

The *Nibandhana*³⁷⁷ states :—

“ पञ्चाश्रिजास्त्रयो वृत्तास्तुर्यश्रः पोतिकान्वितः ।
 स्तम्भः साधारणो धाम्नां कुम्भमण्ड्यादिमण्डितः ॥
 विस्तारत्रिगुणादूर्ध्वमष्टाश्रस्तावता कृतः ।
 स्तम्भः सपोतिकाकुम्भस्तथा मध्याश्रकः स्मृतः ॥
 आमूलतः कृतोऽष्टाश्रः सर्वाष्टाश्रः सपोतिकः ।
 षोडशाश्रिकृतश्चैव वीरकाण्डसमुज्ज्वलः ॥
 कुम्भतन्मण्डनैर्युक्तः षोडशाश्रः सपोतिकः ।

373. *Kāśyapaśulpa* (Ānandāśrama Series), Patala VIII.

374. *Mānasāra* Chapt. XV, 20-23 (P. K. Ācārya's Ed.).

375. *Matsyapurāṇa*, Ch. 255, Vs 1-6.

376. *Brhatsamhitā*, LIII, 27-30

Vide *A Dictionary of Hindu Architecture*, pp. 648-649.

377. *Saivāgama Nibandhana*, Patala XII (Ms. from the Cochin State); vide quotation in the *Vimarśinī* under St. 24 (Paṭ. 2).

मूले कर्णस्थमानेन चतुरश्रोऽथ वर्तुलः ॥
 कुम्भमण्डनसंयुक्तो मूलाश्रश्च सपोतिकः ।
 सर्वत्र वर्तुलो युक्तः कलशेन च मण्डनैः ॥
 पोतिकासहितो मूर्ध्नि वृत्तपादस्तु कीर्तितः ।
 कुम्भमण्डनसंयुक्तो वीरकाण्डस्थपोतिकः ॥
 शुण्डभेदसमो वृत्तः शुण्डपाद इति स्मृतः ।”

The *Prayogamañjarī*³⁷⁸ makes the following observations:—

“ पादाः पञ्चकलाश्रजास्तुविहिताः वृत्तास्त्रयः कीर्तिताः
 वक्ष्ये लक्षणमादरेण विधिवत् प्रत्येकमेषामपि ।
 तुर्यश्रस्त्वथ पोतिकाविनिहितः कुम्भेन मण्डीकृतः
 स्तम्भो यत्नविनिर्मितोऽमृतभुजां साधारणन्धामसु ॥
 विस्तारत्रिगुणेन मध्यनिहितं सङ्कल्प्य चाष्टाश्रकं
 ह्रीनो मूर्ध्नि च पोतिकाविनिहितः कुम्भेन मध्याश्रकः ।
 सर्वाष्टाश्रविनिर्मितस्त्वथ परश्चामूलतः कोमलः
 सर्वाष्टाश्रकपाद एष विहितस्स्यात् पोतिकाप्रोज्ज्वलः ॥
 आमूलादथ षोडशाश्रविहितः कुम्भेन तन्मण्डनैः
 संयुक्तस्त्वथ वीरकाण्डकलितस्स्यात् षोडशाश्रीकृतः ।
 तुर्यश्रं विनिधाय मूलपिहितं कर्णस्थमानाद(न)तो
 वृत्तः कुम्भसमन्वितश्च सकलम्मूलाश्रकः कीर्तितः ॥
 सर्वत्र वृत्तः कलशेन युक्तः स्यात् पोतिकाद्व्यस्त्वथ वृत्तपादः ।
 स्यात् वीरकाण्डेन च शुण्डभेदसंकाशवृत्तस्त्वथ शुण्डपादः ॥”

STANZA 25

The parts of the Column

The parts of the pillar and their characteristics constitute the subject-matter of this stanza. Five parts are mentioned and they are from the bottom upwards ‘Oma,’ ‘Ghaṭa,’ ‘Maṇḍi,’ ‘Vīrakāṇḍa’ and ‘Potikā.’ We shall state here the proportions and features of these parts as des-

378. *Mañjarī*, Paṭala VI, (Ms. from the Adyar Library, Madras).

cribed in the text. 'Oma' is the pedestal (pīṭha) of the pillar; its shape is that of the pillar. If the pillar is round, it will also be round; if the pillar is square, it will also be square. It is two Daṇḍas in vistāra and one-fourth of a Daṇḍa in height. The Daṇḍa here referred to is the top-measure of the pillar.³⁷⁹ The breadth of the pillar at the summit is employed here as the standard of measure, and this is laid down in a previous statement 'चरणप्रतानोऽत्र दण्डः'. The starting unit of measure that is employed in our text is with reference to the breadth of the Uttara.³⁸⁰ The height of the pillar is determined with reference to this breadth of the Uttara.³⁸¹ The breadth of the pillar at the base and at the top is determined with reference to the height of the pillar.³⁸² The top-measure is employed as a unit or standard of measure to measure the various parts that are described in the present stanza. The part known as 'Ghaṭa' (or Kumbha or Kalaśa) comes above the 'Oma', and it is made in the form of a pot. It is two Daṇḍas in vistāra and one Daṇḍa and a quarter in height. The height may also be one and a half or one and three-fourths Dandas. 'Maṇḍi' is a square plank which is placed above the 'Ghaṭa.' It measures four Daṇḍas in vistāra and three-fourth of a Daṇḍa in thickness. This plank presents a situation for rich carvings such as the floral designs of Padma, wreaths (mālya), creature designs like the Nāgaphaṇa or serpent-hood. The part known as 'Virakāṇḍa' comes above the 'Maṇḍi' and is square in shape. It is one Daṇḍa in vistāra, and three-fourth of a Daṇḍa in thickness. It is rendered by Rāz by the term 'collerino.' In the *Mānasāra* it is termed 'Virakanṭha' and is called so because it is marked by the neck of a warrior. Above the 'Virakāṇḍa' and below the 'Uttara' is constructed the part known as 'Potikā.' It is three Dandas or five and a half Daṇḍas or four Daṇḍas in length. Its vistāra will be equal to that of the base of the column; and half this vistāra will be its height or thickness. From its description it corresponds to what is termed the 'capital' or the crowning member of the column. Of these five parts that have been described above, the first and the last, which constitute the base and the capital, are important from the point of view of their structural function, while the remaining ones are primarily ornamental in their intention. In a Kerala commentary in Ms. form it is stated that the first and the last are indispensable, whereas the remaining ones are optional.

379. See notes under stanza on the breadth of columns.

'चरणप्रतानोऽत्र दण्डः'

380. *Tantrasamuccaya*, Patala II, Stanza I

381. *Tantrasamuccaya*, Patala II, Stanza 8.

382. *Ibid.*, Stanza 10.

A reference to the description of these parts, as contained in the *Nibandhana*, *Kāśyapaśilpa*, *Mañjarī*, *Gurudevapaddhati* and others, furnishes ample information on the topic, briefly dealt with in our text.

In the *Nibandhana*³⁸³ the following lines occur which state the proportions of the various parts of the pillar :—

“ स्तम्भमूलघनाः शैला ओमा द्विगुणविस्तराः ।
 तुर्यश्चा मध्यतोर्गता दण्डपादेन चोद्धताः ॥
 दण्डपादेन तीव्रा च तच्चतुर्गुणविस्तरा ।
 मण्डिः पद्मविचित्रा च माल्यनागफणाकृतिः ॥
 पादोनतीव्रं तुर्यश्रं वीरकाण्डं च दण्डतः ।
 पोतिकास्त्वायता दण्डैः सार्धपञ्चचतुस्त्रिभिः ॥
 अर्धत्रिभागपादस्था तलिः स्याद् दण्डविस्तरा ।”

Three kinds of Potikā are found mentioned here known as *Citrī*, *Patrī* and *Mahārṇavī* :—

“ पार्श्वयोश्चतुरंशस्थैः तरङ्गैः क्रमशो परैः ।
 द्वादशाष्टचतुर्भिश्च समैर्मध्येन चोज्ज्वला ॥
 महार्णवीयमाख्याता पत्री चित्री च पोतिका ॥”

Srīkara, *Candrakānta*, *Manorama*, *Saumukhya*, and *Prayadarśana* are names of the various types of Ghāṭa described, and these are associated with different shapes such as the circular, octagonal, sixteen-faced, square etc.

In the *Mañjarī*³⁸⁴ it is said :—

“ स्तम्भास्तत्र चतुष्करास्तुविहिता ।
 ओमां तद्विगुणां तदर्धबहलां विस्तारतः स्थापयेत् ।
 प्रवदामि भूयो मण्डेश्च कुम्भस्य च लक्षणानि ॥
 स्तम्भाग्रमेयो विपुलेन कुम्भस्तस्योच्छ्रयस्तद्दलखण्डवृद्धः ।

383. *Sāvāgama Nibandhana*, XIII (Ms. from the Cochun State), these stanzas are quoted in the *Vimarśinī* of the *Tantrasamuccaya*, Part I, p. 63 (T. S. S. Ed.)

384. *Prayōgamañjarī*, Patala VI (Ms. from the Adyar Library).

स्याच्छीकराख्यस्त्वयमादरेण स्तम्भस्य वृत्तस्य विधीयते हि ॥
 अर्धघातसेधघटश्चन्द्रकान्तो मनोरमः ।
 पूर्वाश्रषोडशाश्राणां स्तम्भानां परिकीर्तितः ॥
 स्तम्भाग्रविपुलः कुम्भः पादोनद्विगुणोच्छ्रितः ।
 सौमुख्यश्चतुरश्राणामष्टाश्राणां प्रकीर्तितः ॥
 द्विगुणोत्सेधकः कुम्भः शस्तोऽयं प्रियदर्शनः ।
 योजयेदतिभारेषु स्तम्भेष्वेनं विचक्षणः ॥
 रन्ध्रैर्विभज्य कलशोच्छ्रयमंशकेन
 कुर्याद्भिराङ्घ्र कलशं विधिवच्चतुर्भिः ।
 एकेन कण्ठमपरेण मुखं विदध्यात्
 शिष्टद्वयेन कमलन्त्वथ हीरकौ च ॥
 स्तम्भस्य नाहः द्विगुणस्तु नाहः कुम्भस्य पादोनकमस्य वक्त्रे ।
 मुक्त्वा त्रिभागं कमले तु नाहमष्टांशहीनावथ वृत्तहीरौ ॥
 पादाग्रकर्णेन मितस्तु कन्दः कुम्भस्य विस्तारमितास्तु माल्याः ।
 मण्डेस्तु तीव्रश्चतुरंशहीनश्चतुर्गुणं विस्तरतोऽग्रपादात् ॥
 माल्याकृतिर्नागफणाकृतिर्वा पद्मे विचित्रा त्रिविधा प्रशस्ता ।
 दण्डप्रमाणन्त्वथ वीरकाण्डं पादोनतीव्रं विदर्धात सम्यक् ॥
 पञ्चार्धदण्डैर्विहितोत्तमा स्याद् दण्डैश्चतुर्भिस्त्वथ मध्यमा स्यात् ।
 दण्डैस्त्रिभिर्कन्यसपोतिका स्यात् पादाग्रविष्कम्भमुशन्ति दण्डम् ॥
 पादं त्रिभागं च तले प्रमाणमर्धं च पादोपमविस्तृताः स्युः ।
 चित्रो च पत्रो च महार्णवी च ज्ञेयाः त्रिधा श्रेष्ठविमानयुक्ताः ॥
 भागे तृतीये रुचिराणि कुर्यात् पार्श्वद्वये स्युः क्रमशोवराणि ।
 भूयस्तरङ्गाणि समानि सम्यक् मित्रान्तमम्भोधिजघन्यमेव ॥
 विस्तारपादेन मितं विधाय पूर्वं तरङ्गे विधिवत्ततोऽपि ।
 अष्टांशहीनानि यथाक्रमेण प्रत्येकमेषामवरत्नमेवम् ॥”

Kāśyapa³⁸⁵ devotes about 37 stanzas to the description of the different parts of the pillars, and the proportions stated there support the author's prescription. Kāśyapa deals with the parts from top down-

wards. The following lines may be noted which treat of *Bodhikā* or *Potikā*, the Capital :—

“ विस्तारसदृशोत्सेधाः पञ्चदण्डायतान्विताः ॥
 उत्तमाः पोतिकाः ख्यातास्तारद्वित्र्यंशमुन्नताः ।
 चतुर्दण्डायतोपेता मध्यमा सा प्रकीर्तिता ॥
 विस्तारस्यार्धतुङ्गा तु गुणदण्डायतान्विता ।
 कन्यसा पोतिका ख्याता ॥
 मूलपादसमव्यासा श्रेष्ठा मध्ये तु मध्यमा ।
 अग्रपादविशालस्य समा कन्यसपोतिका ॥”³⁸⁶

Kāśyapa next furnishes ornamental and other details connected with the *Bodhikā*. About *Vīrakāṇḍa* the following lines are found stated :—

“ बोधिकायास्तथाग्रं तु वीरकण्ठयुगाग्रकम् ।
 अग्रपादसमं तच्च त्रिपादं तुङ्गमुच्यते ॥ १९ ॥
 सर्वेषामपि पादानां वीरकण्ठयुगाग्रकम् ।
 अधस्ताद्वीरकण्ठं स्यात्फलिकालक्षणं शृणु ॥ २० ॥”

Mandaphalakā is described then :—

“ अथ वक्ष्ये विशेषेण फलिकानां तु लक्षणम् ।
 त्रिदण्डं फलिकाव्यासं कन्यासार्धाधिकं समम् ॥ २१ ॥
 चतुर्दण्डविशालं तु उत्तमा लम्बका भवेत् ।
 अथवा फलकाव्यासं कुम्भकर्णं समं भवेत् ॥ २२ ॥
 सर्वेषां फलिकानां तु तुङ्गं पादोनदण्डकम् ।
 तदुत्सेधं त्रिधा भज्य ऊर्ध्वं सो(तत्सं)न्धिरुच्यते ॥ २३ ॥
 तथाथो(ऽर्धो)पेतमेकांशं तस्याधस्त्वम्बुजांशकम् ।
 नागपत्रसमाकारमपेतोपादरूपकम् ॥ २४ ॥”

About *Ghaṭa* it is observed :—

“ फलकमेव कर्तव्यं तस्याधस्तात् घटं कुरु ॥ २५ ॥
 द्विदण्डं पादहीनं वा सार्धदण्डमथापि वा ।

386. Quoted from the *Vimarśinī*, with slight differences in readings, this text occurs in the *Ānandāśrama* Edition of the *Kāśyapaśilpa*, IX, 2(2), 3, 4, 1(2), 2(1).

सपाददण्डतुङ्गं वा घटोच्चं तु चतुर्विधम् ॥ २६ ॥
 प्रियदर्शनं सौम्यं च चन्द्रकान्तं च श्रीकरम् ।
 यथाक्रमेण नामानि कलशानां क्रमादितः ॥ २७ ॥”

etc.

etc.

etc.³⁸⁷

The *Mayamata*³⁸⁸ mentions four types of Kumbha, called ‘*Śrī-kara*,’ ‘*Candrakānta*,’ ‘*Saumukhya*’ and ‘*Priyadarśana*.’ Thus says Maya :—

“ सपादं सार्धपादोद्विगुणं द्विगुणोन्नतम् ॥ २९ ॥
 श्रीकरं चन्द्रकान्तं च सौमुख्यं प्रियदर्शनम् ।
 यथाक्रमेण नामानि कलशानां भवन्ति हि ॥ ३० ॥”

The proportions of parts that compose the Kumbha are given in stanzas 32 and 33. *Virakāṇḍa*, it is stated there, is square in all pillars :—

“ सर्वेषामपि पादानां वीरकाण्डं युगाश्रकम् ॥ ३७ ॥”

The part *Potikā* must be present in all pillars :—

“ सर्वे पोटिकया युक्ता नानारूपैर्विचित्रिताः ॥”

From the topmost part downwards the author of the *Mayamata* enumerates the parts as follows :—

“ पोटिका खण्डमध्यं च कुम्भं स्कन्धं च पद्मकम् ।
 मालास्थानं क्रमेणैव स्तम्भाग्रात् परिकल्पयेत् ॥ ३१ ॥”

According to its dimensions, the *Potikā* is classified into the best, middle and lowest type :—

“ पञ्चदण्डसमायामा श्रेष्ठार्धोच्चा कनिष्ठिका ।
 आयता सा त्रिदण्डेन चतुर्दण्डेन (द्विर्यका १) ॥ ४० ॥
 त्रिभागोना त्रिपादोच्चा मध्यमा पोटिका भवेत् ॥”

387 *Kāśyapaśilpa* (Ānandāśrama Series), IX, 19-27.

388 *Mayamata*, Chapter XV, Sts. 29(2), 30 (T. S. S. Ed.).

The three varieties of *Potikā* according to their ornamental features are described as follows :—

“ पार्श्वयोः पोतिकामध्ये पट्टं पादविशालवत् ।
 नानाचित्रैर्विचित्रा वा सा प्रोक्ता चित्रपोतिका ॥ ४८ ॥
 पत्रैर्विचित्रिता पत्रपोतिकेति प्रकीर्तिता ।
 महार्णवतरङ्गाभतरङ्गाभा तरङ्गिणी ॥ ४९ ॥”

Gurudeva³⁸⁹ also elaborately deals with the various parts of pillars and their ornamentations. With regard to *Kumbha* etc., he observes as follows :—

“ कुम्भाः स्युः पादविष्कम्भाश्चतुर्थांशाधिकास्तु वा ।
 साध्यर्धाः पादहीना वा द्विगुणा वा भवन्ति हि ॥ ४९ ॥
 श्रीकरश्चन्द्रकान्तश्च सौमुख्यः प्रियदर्शनः ।
 इति कुम्भाश्चतुर्धा स्युर्वृत्तानां श्रीकरो भवेत् ॥ ५० ॥
 अष्टाश्राणां चन्द्रकान्तः श्रीकरः स्यात् कलाश्रके ।
 स्तम्भानां चतुरश्राणां सौमुख्यः कुम्भ इष्यते ॥ ५१ ॥
 शेषाणां चातिभाराणां कुम्भः स्यात् प्रियदर्शनः ।
 कुम्भभागे नवांशे तु धृगेकेन विधीयते ॥ ५२ ॥
 चतुर्भिः कुम्भ एव स्यात् कण्ठोऽशेनांशतो मुखम् ।
 शिष्टभागद्वयं त्र्यंशं कृत्वैकेनाम्बुजं भवेत् ॥ ५३ ॥
 भागेन वृत्तं शिष्टांशादूर्ध्वं कण्ठे तु भिन्नकौ ।
 स्तम्भाग्रकर्णमार्गेण स्कन्धः स्यात् समविस्तृतः ॥ ५४ ॥
 ऊर्ध्वं तद्वीरकाण्डस्य पोतिकां तु निवेशयेत् ।
 स्तम्भव्यासात् त्रिगुणितं चतुर्गुणमथापि वा ॥ ५५ ॥
 मण्ड्यायामः स्मृतोऽङ्गघ्रसमो वेष्वब्धिभागतः ।
 मण्ड्युत्सेधो भवेत् तावान् वीरकाण्डस्य चोच्छ्रयः ॥ ५६ ॥
 विस्तारो दण्डमात्रः स्यादथ मण्ड्याः शरांशतः ।
 सार्धेन फलकास्थौल्यं तत्समो वेत्रनिर्गमः ॥ ५७ ॥
 मण्ड्युत्पलदलाकारा पाल्याकाराब्जपत्रवत् ।

389 *Īśāna Gurudevapaddhati*, *Kriyāpāda*, *Stambhālankāra*, *Paṭala XXXI*, *Sts.* 37-74 (T. S. S. Ed.).

ताम्बूलसमसौन्दर्यं यजमानसुखावहम् ॥ ५८ ॥
 विपरीतं विरूपं च वर्ज्यं तदशुभं यतः ।
 अथवा स्यात् प्रकारोऽन्यो घृक्कण्ठापादविस्तृतिः ॥ ५९ ॥
 पोतिकाखण्डमण्डनीनि कुम्भं लशुनमूलकम् ।
 अम्भोजमालास्थानानि स्तम्भाग्रे योजयेत् क्रमात् ॥ ६० ॥
 अग्रहीनं तु लशुनं मूलोच्चं विपुलं भवेत् ।
 साष्टांशाधिकमर्धं वा त्रिपादोदयमम्बुजम् ॥ ६१ ॥
 मालास्थानविशालोच्चं दण्डमात्रं नियोजयेत् ।
 मण्ड्यायामो भवेत् पादात् त्रिगुणो वा चतुर्गुणः ॥ ६२ ॥
 स्तम्भाग्रतुल्यं मण्ड्युच्चं पञ्चभागोनमेव वा ।
 त्रिभिरंशैस्त्रिपादैर्वा वीरकाण्डश्च तत्समः ॥ ६३ ॥
 मण्ड्युत्सेधशरांशेन सार्धोऽंशः फलकोच्छ्रयः ।
 वेत्रं च तत्समं ज्ञेयं मण्ड्युत्सेधोपपादकम् ॥ ६४ ॥
 पाल्याकारं तु पद्माभं त्रिधा नागदलोपमम् ।
 तदूर्ध्वं पोतिका स्थाप्या तस्या लक्षणमुच्यते ॥ ६५ ॥”

The nica (lowest), madhya (middling) and uttama (best) types of *Potikā* are then described :—

“ सा च स्यात् स्तम्भविस्तारात् त्रिगुणं वा चतुर्गुणम् ।
 दीर्घा पञ्चगुणं वापि नीचमध्योत्तमा स्मृता ॥ ६६ ॥
 नागवृत्ता पत्रचित्रा समुद्रोर्मिश्च पोतिका ।
 त्रिविधा नामभिर्ज्ञेयास्तासां लक्षणमुच्यते ॥ ६७ ॥
 स्तम्भव्याससमोत्सेधविस्तारा श्रेष्ठपोतिका ।
 शरांशेना मध्यमा स्यादूनद्वयंशा कनिष्ठिका ॥ ६८ ॥”

The *Potikā*, known as ‘*Citrapotikā*,’ is so called because it is decorated with figures of demons, crocodiles, fabulous animals such as the *Vyāla*, foliages, rows of gems and the like. The second decorative type of *Potikā*, known as ‘*Patrapotikā*,’ is ornamented by patterns of leaves and creepers, and the third type, called ‘*Taraṅgṇī*,’ is adorned with *taraṅgas* or wave-like ornaments which terminate by a number of undulating lines.

The following stanzas from Gurudeva describe these three types in clear and distinct terms :—

“ भूतेभमकरव्यालरत्नबन्धविचित्रिता ।
 वल्लीचित्राग्रपट्टा च सा ख्याता चित्रपोतिका ॥ ६९ ॥
 केवलं पत्रवल्लीभिर्विचित्रा पत्रपोतिका ।
 तरङ्गमात्रचित्रा या पोतिका स्यात् तरङ्गिणी ॥ ७० ॥
 तरङ्गाश्चात्र वेदतुल्यस्वाशादित्यसंख्यया ।
 कार्यास्तूभयतस्तुल्याः पट्टिकाच्छन्नमध्यगाः ॥ ७१ ॥
 त्रिभागे पोतिकोत्सेधे सा(ध्यं ? धौ)शेनाग्रपट्टकम् ।
 तदधार्धेन तदधः क्षेमच्छायान्वितं भवेत् ॥ ७२ ॥
 तदुच्चाधार्धत् त्रिभिर्विशैरंशाभ्यां वात्र कल्पयेत् ।
 खन्यासार्धत् त्रिपादाद् वा कुर्यात् तत्स्वग्रमण्डनम् ॥ ७३ ॥”

A very elaborate and lengthy description of the parts of the pillar, the proportions of the ornaments that enter into the composition of the pillar, is given in the *Mānasāra*³⁹⁰ in the Chapter on ‘Pillars’ The description is minute. The texts quoted above, when compared with the *Mānasāra*, appear more concise, clear and well marked and less tedious to follow. In the manner of treatment they agree more closely with our text than with the *Mānasāra*.

The five names Śrīkara, Candrakānta, Saumukhya, Priyadarśana and Śubhaṅkarī which Dr. Ācārya quotes in his *Dictionary*³⁹¹ of *Hindu Architecture* and in his *Essay on Indian Architecture*³⁹² are not names of whole pillars as Dr. Ācārya would have us believe, but names of the part known as Kumbha or Ghaṭa. Thus observe the statement of the *Suprabhedāgama*³⁹³ :—

“ श्रोकं चन्द्रकान्तं च सौमुख्यं प्रियदर्शनम् ॥ ६५ ॥
 शुभङ्करी च नामानि कर्तव्यानि विशेषतः ।
 श्रीकरं वृत्तपादानां षोडशस्ये तु कान्तकम् ॥ ६६ ॥
 सौमुख्यं हि तथाष्टासो तुयग्निं प्रियदर्शनम् ।”

390. *Mānasāra*, Chapter XV (P. K. Ācārya's Ed.).

391. *A Dictionary of Hindu Architecture*, vide under ‘Stambha’.

392. *Indian Architecture* by Ācārya, pages 125, 126, 150.

393. *Suprabhedāgama*, XXXI, 65, 66, 67 (quoted in *A Dictionary of Hindu Architecture*, pp. 646, 647).

From this description it is obvious that Śrikara, etc., are prescribed for pillars of different shapes such as the circular etc. These names hence refer to the part of the pillar; they refer to the five different classes of 'Kumbha;' they do not stand to indicate the various classes of pillars. The texts we have quoted above also confirm the fact we have here observed.

STANZA 26.

The Disposition of the Doors

In this stanza, the author describes the location of the main door and the false doors. By the main door we mean the door of the sanctum sanctorum, which, when opened, presents a full view of the deity seated in the Holy of Holies. Having divided the thickness of the wall into twelve parts, a line must be drawn leaving five parts outside and seven parts inside, and the door should be so situated that the middle of the door must coincide with the line drawn in the wall. There should be one front-door, and three doors on the three sides. These doors must come above the Prati, the topmost moulding of the basement. The doors placed must not exactly come in the middle of the facade; their centre must not coincide with the centre of the Garbhagrha. In their situation, they should be slightly shifted from the centre of the Garbhagrha, in order to avoid what is known as 'Marmavedha.' The amount of shifting, as given in some authority, is stated by the commentator Śaṅkara as follows:—The breadth of the front-door having been divided into twenty-one parts, one part thereof may be left to the left side from the middle, and the centre of the door should be brought here and thus the front door must be placed. The remaining three doors are situated in a circumambulatory direction and with regard to the amount of shifting prescribed, the proportion given is $\frac{1}{36}$, $\frac{1}{64}$ and $\frac{1}{81}$ of the breadth of the respective doors in order or in all the three cases, the proportion of shifting may be taken as $\frac{1}{36}$ or $\frac{1}{64}$ or $\frac{1}{81}$ of the breadth of the respective door. Of the four doors, the door proper which serves as the means of entrance is the front door and it is the real door. The other three are false doors, and are called 'Ghanadvāras.' They are described in a subsequent stanza. They do not serve the function which the main door serves and are smaller in their dimension than the main door. They are ornamental in their character, and besides possessing all the ornamental details of the main door, they are additionally decorated with Toranas in their upper parts. Toranas do not figure in the main door, and they thus form the special feature of the Ghanadvāras. The real door, it is stated, must be made of wood, and

this is natural, since it is required to be made and situated before the wall is made. In the traditional mode of construction, when wood was the chief material used, all the doors and walls were necessarily made of wood. But in later times, when stone came into vogue, the wall and the false doors also were constructed out of stone. Gurudeva states that Ghanadvāras are wrought on the wall, and that they are made of the same material stone. In their office and situation, they differ from the real door, which is made of wood and made first. They are reduced to decorative elements adorning the three sides of the wall. The author of the *Tantrasamuccaya*, however, does not state that the Ghanadvāras should be wrought on the wall. He describes them before he starts to describe the wall, and from this tenor of treatment, it would appear that the doors are to be constructed first, before the walls are constructed. In this case, the false doors too, it might be presumed, are required to be made of timber. This line of treatment is in the original and traditional wake, but in actual practice this is not the case, for, when stone came to be employed in the construction of the wall, the false doors also came to be wrought in the wall, and their construction necessarily follows the construction of the wall. A Malayālam commentator on the *Tantrasamuccaya*³⁹⁴ thus remarks in the light of the modern practice, that the Ghanadvāras are to be distinguished from the real door in that they are wrought in the wall and made of the material employed in the construction of the wall, whereas the real door is made of timber and situated before the walls are constructed.

By way of comparison, the following lines, which support our author's statement, are found quoted in the commentary by Śaṅkara :—

“ योऽं तु स्थापयेद् विप्र ! शान्तिहोमपुरःसरम् ।
 भित्तिव्यासे तु भान्वंशे बाह्यात् पञ्चावसानकम् ॥
 अभ्यन्तरात् तु सप्तांशसमं योगस्य मध्यमम् ।”
 “ मुहूर्ते स्थापयेद् विद्वान् मध्यान्मध्यं विमुच्य च ।”³⁹⁵

Gurudeva³⁹⁶ says :—

“ सर्वत्र प्रत्युपर्येव द्वारं कुर्याद् विचक्षणः ।”

394. Ms. R. No. 4, 128, The Government Oriental Mss Library, Madras.

395. These lines with slight changes in reading are found in the *Kāśyapaśilpa* (Ānandāśrama Series), Patala XIV, Śts 14, 15⁽¹⁾

396. *Gurudevapaddhati*, Uttarārdha, XXXI, 138, 139 (T. S. S. Ed).

“ उत्थाय तल्पं संस्थाप्य भित्तेर्व्यासार्कभागतः ॥
 बहिरन्तः शरांशान्तं रामांशान्तं क्रमेण तु ।
 कवाटयोगमध्यं स्यात् तन्मध्यं भित्तिमध्यकम् ॥”

The *Mayamata*³⁹⁷ observes :—

“ भित्तिव्यासे द्वादशांशे तु बाह्ये
 पञ्चांशान्तद्वारयोगस्य मध्यम् ।
 तद्वचान्तः स्तम्भमध्यं तयोस्त-
 न्मध्यं प्रोक्तं भित्तिमध्यं विधिज्ञैः ॥”

Śaṅkara also quotes the following lines :—

“ स्वव्यासमूर्छावृत्तियुञ्जद्वन्द्वेन्दुगजांशकैः ।
 द्वारं प्रदक्षिणश्चाल्यां स्वेध्वेकेनैव वा घनाः (?)³⁹⁸ ॥”

STANZA 27.

The Height and Breadth of the Bimbadvāra.

The author now proceeds to lay down the rules pertaining to the dimensions of the doorway. The height and breadth prescribed are those of the main door, which is the front door. Different dimensions are prescribed on the basis of difference in the conception of the object worshipped. In the present stanza the author deals with the height and breadth of the doorway of the Garbhagrha which contains a Bimba or image. The conception of Bimba is anthropomorphic in character and this is to be distinguished from the purely symbolic conception of a Liṅga. When the deity is worshipped in anthropomorphic form, it is called Bimba, and when worshipped in the purely symbolic form it is known as Liṅga. The height and breadth of the doorway is separately laid down with reference to this differentiation in the form of the object of worship. The height of the main door of a Liṅga shrine as stated here, is $\frac{7}{11}$, $\frac{5}{6}$, $\frac{7}{12}$, $\frac{4}{7}$, or $\frac{8}{15}$ of the vistāra (breadth) of the Garbhagrha

397. *Mayamata*, Chapter XIX, st. 22 (T. S. S. Ed.).

398. *Tantrasamuccaya* with *Vimalasīlī*, Part I, page 64 (T. S. S. Ed.).

while its breadth is $\frac{10}{21}$, $\frac{9}{19}$, $\frac{7}{15}$, $\frac{4}{13}$ or $\frac{4}{9}$ of the height of the door. The breadth of the Garbhagrha referred to here is to be understood as the breadth of the sanctum sanctorum which is marked by the walls, by inner wall (*Āntarabhitti*) if such inner wall exists. The proportions given here are supported by the authoritative statements of Bhāskara, an architectural authority found quoted in the commentary of Śaṅkara. The statement runs thus :—

“ प्रतिमाद्वारमानं तु गर्भागारेण चोच्यते ।
 एकादशात् सप्तोत्सेधमेकविंशाद् दशविस्तरम् ॥
 अष्टांशे पञ्चभागोच्चं नवदशे नवविस्तरम् ।
 द्वादशांशे सप्तोत्सेधं त्रिपञ्चे सप्तविस्तरम् ॥
 सप्तभागे चतुष्कोच्चं त्रयोदशे षड्विस्तरम् ।
 तिथिभक्तेऽष्टसंख्योच्चं नवभक्ते चतुर्विस्तरम्³⁹⁹ ॥”

STANZA 28.

The Height and Breadth of the Liṅgadvāra.

If a Liṅga is to be installed, the height and breadth of the front door will have different proportions altogether. The present stanza deals with such proportions. The height of the front door of a Liṅga shrine may be $\frac{2}{3}$, $\frac{3}{5}$, $\frac{5}{9}$ or $\frac{1}{2}$ of the breadth of the Garbhagrha, while its vistāra (breadth) will be $\frac{1}{2}$, $\frac{8}{17}$, $\frac{5}{11}$ or $\frac{3}{7}$ of its height. These proportions are in the line of Bhāskara's statement which is quoted by Śaṅkara as follows :—

“ अथ तद् द्वारमानं तु गर्भागारेण चोच्यते ।
 त्रिभागद्वयमुत्सेधमुत्सेधार्धं तु विस्तरम् ॥
 पञ्चभागत्रिभागोच्चं सप्तदशाष्टविस्तरम् ।
 नवांशात् पञ्चोत्सेधं दशैकांशात् पञ्चविस्तरम् ॥
 विस्तारार्धं कनिष्ठोच्चं सप्तभागं त्रिविस्तरम् ।
 गर्भागारप्रमाणेन लिङ्गद्वारस्य मानकम्⁴⁰⁰ ॥”

399. Vide the *Tantrasamuccaya* with *Vimarsinī*, Part I, page 65 (T. S. S. Ed.).

400. *Ibid.*

Since the alternatives given in both the cases of height and breadth agree in number and order, it might be presumed that the first alternative in height goes together with the first alternative in breadth. The tenor of Bhāskara's statement lends support to this suggestion, for his first alternative in breadth is found stated along with the first alternative in height, the second alternative in breadth with the second alternative in height and so on in order. The proportions given in the *Mañjarī* and *Nibandhana* for the height of the Dvāra are $\frac{2}{3}$, $\frac{3}{5}$, and $\frac{5}{9}$ of the breadth of the Garbhagrha, and those prescribed in the *Gurudevapaddhati* are $\frac{1}{2}$, $\frac{5}{9}$, and $\frac{3}{5}$. With regard to the breadth of the door-way, all the three authors prescribe only one proportion and that is half the height of the door-way. This is a very reasonable and a common proportion. Mānasāra does not fail to notice and state this widely and commonly accepted proportion, for says he⁴⁰¹:—

“ सर्वेषां द्वारतुल्यार्धं शुद्धद्वारविशालकम् ।”
 “ विस्ताराद् द्विगुणोत्सेधं सामान्यमिति कथ्यते ॥”

In the variety of proportions laid down in the *Tantrasamuccaya*, *Gurudevapaddhati*, *Mañjarī*, *Bhāskarīya* and *Mānasāra* with respect to the measure of the door, especially with regard to the breadth thereof, there is noticeable a general consensus of opinion.

Compare for instance the *Mañjarī*⁴⁰² which states as follows:—

“ भागद्वयं त्रिभजिते पृथग्भगैहे
 भूतैश्च वह्निथवा नवभिश्च पञ्च ।
 द्वारोच्छ्रयश्च विदधीत यथाक्रमेण
 विस्तारमर्धपरिमेयमतो विदध्यात् ॥”

The *Nibandhana* similarly observes:—

“ त्रिपञ्चनवभिर्गर्भं भङ्त्वा यैर्द्वित्रिपञ्चभिः ।
 कुर्यात्तदर्धेन तु विस्तर 403 ॥”

401 *Mānasāra*, Text, Ch XXXIX, lines 13, 35 (P. K. Ācārya's Edition)

402. *Prayōgamañjarī*, Patala VI (Ms. from the Adyar Library)

403 *Sawāgama Nibandhana* (Ms from Tripunittura, Cochin State), Paṭala XIII.

Gurudeva also states similar proportions in the following statement :—

“ तद्वन्नालीगृहव्यासरामभागैकभागतः ।
अर्धं नवांशे पञ्चांशैः पञ्चांशेवांशकैस्त्रिभिः ॥
द्वारोत्सेधो भवेत् तस्मादर्धं विस्तृतिरिष्यते ॥” etc ⁴⁰⁴

The rules that the *Mānasāra* states with regard to the door-measure are first laid down with reference to the Hasta measure and then with reference to the pillar-measure, and lastly in relation to the measure of the structure.

STANZA 29.

An alternative measure of the door and the characteristics of the Jambs, etc.

In the former half of this verse, the author lays down the measure of the door from the point of view of the pillar, and this measure prescribed refers to the door of the shrine of all gods. The height of the door which is stated here is $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{9}$, or $\frac{1}{10}$ of the height of the pillar, and its breadth prescribed is half that of its height. Gurudeva, Maya, Kāśyapa, Mānasāra, all these authorities prescribe the height of the door from the point of view of the height of the pillars. Thus Gurudeva observes :—

“ स्तम्भायामे तु दिङ्मनन्दवसुसप्तांशके क्रमात् ॥
नन्दवस्त्वृषिषड्भागैर्द्वारोत्सेधं प्रकल्पयेत् ।
तदर्धविस्तृतं च स्याद् द्वारं देवालयेषु वै ⁴⁰⁵ ॥”

These proportions agree with the text of the *Tantrasamuccaya*. The *Mayamata*⁴⁰⁶ likewise states :—

“ पादोत्सेधे पङ्क्तिनन्दाष्टभागे
द्वारोत्सेधं तत्तदेकांशहीनम् ।
विस्तारं स्यात् तत्तदुच्चार्यमानं
द्वारं कुर्याद्धर्ममध्ये नृपाणाम् ॥

404 *Gurudeva Paddhati* (T. S. S. Ed.), Uttarārdha, Patala XXXI, sts. 104, etc.

405 *Ibid.*, 102, 103.

406. *Mayamata*, (T. S. S. Ed.), Ch. XIX, St. 20; Ch. XXX, St. 10.

स्तम्भायामाष्टभागेन तुङ्गद्वारं सुरालये ।
नन्दपङ्क्त्यंशहीनं वा विस्तारं स्यात् तदर्धतः ॥”

The *Kāśyapaśilpa*⁴⁰⁷ states :—

“ पादोच्चं दशधा भज्य शुद्धद्वारं नवांशकम् ॥
चरणं नवधा भज्य अष्टांशं द्वारमानकम् ।
अथवाऽङ्गिस्तु तुङ्गं तु वसुभागविभाजिते ॥
सप्तमं द्वारमानं तु ।”

The *Mānasāra*⁴⁰⁸ states :—

“ अथवा द्वारमुख्यानां हर्म्यपादमिहो(वशादु)च्यते ॥
तत्तत्पादोदये वाथ वसुनन्ददशांशकैः ।
तत्तदेकांशहीनं स्याद् द्वारतुङ्गमिति स्मृतम् ॥
तदर्धं विस्तृतं प्रोक्तम् ।”

In the previous stanzas the dimensions, as we have noticed already, were prescribed in relation to the breadth of the Garbhagrha. The breadth of the Garbhagrha, as we have seen, is the same as the breadth of the Uttara, which forms the starting-point of measure. The height of the pillar is also determined with reference to the breadth of the Uttara. The dimensions which the author here lays down with reference to the height of the pillar, if further considered, reveal only another variation of the previous and original line of determining the measure with reference to the breadth of the Garbhagrha. A comparison of the proportions set forth in the text with those laid down elsewhere only unfolds the identical mode of treatment which the several authors followed and the consensus of opinion they arrived at with respect to the principles of dimensions.

In the latter half of the stanza the author describes the measure and characteristics of *Yogas* or door-posts, *Bhuvāṅgama* or the foot-rest (i.e., the lower horizontal part of the door-frame), and *Paṭaṅga* or the lintel (the upper part of the door-frame). *Bhuvāṅgama* and *Paṭaṅga* are fixed at the foot and at the top, between the two door-posts (jambs). ‘Yogas’ as described in the *Vivaraṇa* are two pieces of timber planted on the

407 *Kāśyapaśilpa* (Ānandāśrama Series), XIV, 1(2), 2, 3; Also vide XVII, 1, 2.

408. *Mānasāra*, Ch. XXXIX, lines 14-17. (P. K. Ācārya's Ed.).

two sides, and 'Bhuvāṅgama' is the piece placed at the base, between the two door-posts. Thus it is stated ⁴⁰⁹ :—

“योगो द्वारपार्श्वयोरध उपरि च स्थाप्यो दण्डो ह्यपूर्वमुक्तः । तत्र भुवङ्गमः कार्यः।
अयमधस्ताद्योगयोर्मध्ये शाययितव्यः ।”

The breadth of the door-posts is also laid down with reference to the pillar-measure. The *viśtāra* of the *Yogas* (door-posts) according to the prescription of the author, is the same as, or one and a quarter or one and a half times that of the *viśtāra* of the pillar, while its thickness will be half of its *viśtāra*. The significance of the latter two alternatives, which give a larger proportion to the breadth of the door-post, is not clear. The proportion, however, is agreed upon by other authorities like Gurudeva, Kāśyapa and Maya.

Thus Gurudeva⁴¹⁰ says :—

“सपादपादविस्तारस्तद्वर्धबहलो दृढः ॥
कवाटयोगस्तत्पार्श्वे वाजनं पूर्ववद् भवेत् ॥”

Kāśyapa⁴¹¹ observes :—

“पादविष्कम्भमानं वा सपादं सार्धमेव वा ॥
द्वारयोगस्य विस्तारं तस्यार्धं घनमुच्यते ॥”

Maya⁴¹² states :—

“योगव्यासं पादविष्कम्भमानं पादाधिक्यं वा तद्वर्धं त्रिपादम् ।
बाहुल्यं स्यादुच्छ्रये वेदभागौ बाह्ये साब्जक्षेपणं तत्त्रिभागैः ॥
विपादपादविस्तारा सार्धो वा योगविस्तारा ॥
स्तम्भव्याससमो वापि तद्वर्धं [र्धं] वलय [द्वय] द्वयम् (?) ।
त्रिपादं चोत्तराधस्था न्तस्य वाजनम् ॥”

The proportions prescribed in the above stanzas evidently lay emphasis on the strength, stability and importance of the door in a temple,

409. *Tantrasamuccayavivaraṇa*, Ms. R. No. 1994, Government Oriental Mss. Library, Madras.

410. Quoted from the *Vimarśinī* (*Tantrasamuccaya*, Part I, T. S. S. Ed., p. 66).

411. *Kāśyapaśulpa* (Ānandāśrama Series), vide XVII, 6 (2), 7 (1); *Vimarśinī* (T. S. S. Ed.) Part I, p. 67.

412. *Mayamata* (T. S. S. Ed.), XIX, 21; XXX, 11, 12.

for the door plays an important and chief part in the protection of the riches contained inside the sanctum sanctorum. The front side of the door-posts are required to be adorned with such ornaments as the Vājana etc.

STANZA 30.

Bhuvāṅgama and Pataṅga.

In this stanza the author prescribes the dimensions of the lower plate called *Bhuvāṅgama* and the upper plate called *Pataṅga*, whose location has been described in the previous stanza as at the base and top respectively of the door-posts. The dimension of the *Bhuvāṅgama* is now first stated in this verse. It is directed as follows: Deduct the height of the door from the height of the pillar and divide the result into five parts. Two parts thereof will constitute the thickness of the *Bhuvāṅgama* (foot-plate). Or, if the result is divided into nine parts, two and a half parts may be allotted to the thickness of the *Bhuvāṅgama*. Its breadth will be as much as that of the door-post. This breadth is technical in proportion and it must be understood as exclusive of the projection which is essentially given to the upper and lower Paṭṭikā of the door with a view to providing situation for fixing up of the Nāla and Śikhā of the door-leaves. The parts that are left, namely $\frac{3}{5}$ in the first alternative and $6\frac{1}{2}/9$ in the second alternative, are devoted to the thickness of the upper piece *Pataṅga* together with the ornamental plank that is placed over it. *Bhuvāṅgama* will be devoid of the ornament Vājana. *Pataṅga* will be accompanied by the ornamental plank *Maṅgalaphalakā*. This plank is so-called because it bears auspicious figures like that of Gaja Laksmī. Gaja Laksmī is the Goddess sitting in a full-blown lotus and laved by two white elephants on either side. The sacred water that is poured over Her head is from a lotus-pond. This figure of Laksmī is depicted and carved on the external door of Indian temples and plays a very prominent part in the rich repertory of India's architectural ornament. This representation is believed to be extremely auspicious and supremely beautiful. The Vivaranakāra remarks that this plank *maṅgalaphalakā* is to be situated below the Uttara.

Says he :—

“फलकेति उत्तरादधोऽयमलङ्कारः⁴¹³ ।”

413. *Tantrasamuccaya Vivarana*, R. No. 1994, G.O M L., Madras.

Compare the statement of Gurudeva⁴¹⁴ :—

“ द्वारोच्चशेषे पञ्चांशे भवेदंशद्वयं त्वधः ॥
ऊर्ध्वं त्रयोऽशास्तत्र स्युः फलका चात्र चित्रिता ।”

STANZA 31.

The Panels.

In this verse, the author lays down the dimensions of *Kavāṭas* (the door-leaves). The thickness of the door-leaf will be one-fourth or one-sixth or one-eighth of the *Daṇḍa* (*Daṇḍa* = the breadth of the pillar at the top). Its breadth will be half of the breadth of the door plus this thickness. It must have two projections, one called *Nāla* at the base, and the other called *Śikhā* at the top. These projections are made to enter the cavity at the base and top of the *Bhuvāṅgama* and *Patanga* respectively. They thus serve to secure the door-plates into the lower and upper *Paṭṭikās* of the door-frame. Two leaves are to be made of timber which is firm and durable. On the outer side of the left panel should be fixed what is known as ‘*Sūtraphalakā*.’ The left leaf is to be determined with reference to the left side of the image. The proportions concerning the thickness and breadth and the ornamentation of the *Sūtraphalakā* are next described. The thickness of the *Sūtraphalakā* will be half of the thickness of the *Kavāṭa*, and its breadth will be twice the thickness (of the *Kavāṭa*). This *Sūtraphalakā* when fixed to the left panel, adds to the strength of the door and affords protection to the panel-joint. Hence it is termed the *Sandhuphalakā*. It is adorned with such ornamentations as the bulging breasts. Other ornamentations like the *Vājana* come in the interspace between the protruding breast-ornaments. The breast-motif is a common motif, a characteristic door-ornament. *Kāśyapa* calls *Sūtrapattikā* by the name *Dvārapattikā* and states its proportions, etc., as follows :—

“ दक्षिणे तु कवाटे तु योजयेद् द्वारपट्टिकाम् ।
त्रिचतुष्पञ्चमात्रं वा द्वारपट्टिकविस्तृतम् ॥
तत्रिभागैकभागं तु तस्य तोत्रमुदाहृतम् ।
तन्नीत्राद् द्विगुणं ख्यातं नीत्रं वैतत्कवाटयोः⁴¹⁵ ॥”

414. *Gurudeva Paddhati*, Uttarārdha, Patala XXXI, sts 111(2), 112(1) (T. S. S. Ed.).

415. *Kāśyapaśilpa*, Patala XVII, sts. 16, 17 (Ānandāśrama Ed.).

With regard to the breadth and thickness of the Kavāṭa, Gurudeva⁴¹⁶ states :—

“ दण्डाच्चतुष्पदष्टांशं कवाटफलकाधनम् ।
श्रेष्ठमध्याधमं ज्ञेयं क्रमात् सर्वेषु धामसु ॥”

The *Nibandhana*⁴¹⁷ observes :—

“ स्तम्भाष्टांशधनौ रम्यौ कवाटौ विस्तरेऽधिकौ ।
तदर्धबहलो दण्डो मध्ये द्विगुणविस्तरः ॥”

STANZA 32.

Ornamentations of the Door-panels.

In this verse the author gives a list of the different ornamentations of the door-panels (Kavāṭas). They are both functional as well as decorative elements. They are enumerated as follows: (1) *Bhramarakas*, (2) *Argala*, (3) *Sandhipāla*, (4) *Prakṣepaṇṇya*, (5) *Valayas*, (6) *Patrakas*, (7) *Pulakas*, *Ārtavas*, and *Kuḍmalas*, (8) *Śrīmukha*, (9) *Induśakala*, etc. Of these, *Bhramarakas* are hinges which are fixed at the top and base of the panels. They are means employed for the turning of the door-plates. *Argala* is the bolt attached to the panel and it serves to close and fasten the door. The bolt which is fixed to the Kavāṭa on its outer face is known as *Prakṣepaṇṇya*. *Sandhipāla* is the *Sūtrapthalakā* which serves as the protector of the joint of Kavāṭas. *Valayas* are metallic chains round like armlets, fixed to the plates for the pulling of the Kavāṭas and thus opening the door. *Patrakas* are metallic bands, usually made of copper or brass or iron, in the form of creepers. These lend additional strength to the door-plates. Other ornamental elements which form a source of increasing beauty to the Kavāṭas are nails fixed to the plates lengthwise and breadthwise resembling flowers in their varied stages of bloom such as the *Kudmalas* or buds, *Pulakas* or semi-blossomed flowers and *Ārtavas* or full-blown flowers. The Kavāṭas are further adorned with the carvings of such figures like the bust of the Goddess Śrī, crescents and the like. All the ornaments and elements of the panels which have been described above with exception apart of *Argala* are wrought on the outer face of the Kavāṭas and are consequently open to the full gaze

416. *Gurudevapaddhati*, Uttarārdha, Patala XXXI, st. 113 (T. S. S. Ed.).

417. *Śavāgama Nibandhana* (Ms.), Patala XIII (Tripunitura Ms.).

of the spectator who stands outside in front of the door facing it when it remains completely shut. The ornaments that the author has described are common and characteristic ornaments of the door. The authors of the *Nibandhana* and *Mañjarī* give some more, and a comparison of the list presented in our text with that furnished in the *Nibandhana* and *Mañjarī*, *Mayamata* and others, serves to amplify the list set forth above. The same text is found in both the *Nibandhana* and *Mañjarī*.

It runs as follows⁴¹⁸ :—

“ श्रीमुखं वामदण्डं च पिञ्जरी पुलकार्गलौ ।
क्षेपणं सन्धिपालं च दण्डकुण्डलकौ तथा ॥
अन्तर्गतविषाणौ च फल्गु(गुल्फ)भ्रमरकौ तथा ।
बलाहः परिघश्चैव भूषणानि कवाटयोः ॥”

*Parāśara*⁴¹⁹ enumerates the following :—

“ श्रीमुखसन्धिपालपत्रह्रस्वदण्डकुण्डलशृङ्गगुल्फान्तर्गलकविषाणवलाहकपिञ्जरीगुच्छ-
कवनकोर्धचन्द्राद्यवयवानि मुख्यलोहैरयसा वा दृढतरं कुर्यात् ” इति ॥

The *Mayamata*⁴²⁰ takes note of the following :—

“ श्रीमुखैर्वामदण्डैश्च पिञ्जरीगलकार्गलैः ।
क्षेपणैः सर्धपत्रैश्च गुच्छगैर्वनकैस्तथा ॥
गुल्फैरन्तर्गतैर्ग्राम्यैर्वालाभैर्मध्यकुण्डलैः ।
विषाणपरिघाक्षुद्रदण्डैर्युक्तं कवाटकम् ॥
इन्द्रनीलसमोपेतं सर्वचित्रमनोहरम् ।
अधवासान्यलोहैश्च युक्त्या तत्र दृढीकृतम् ॥
गुल्फैः सार्धैर्ललाटैश्च शृङ्गायोमयपत्रकैः ।
बध्नीयात् सर्वयत्नेन यथाशोभं यथाबलम् ॥”

418. *Prayōgamañjarī*, Pat VI, (Adyar Mss. Library); *Nibandhana*, Pat. XIII (Ms. from Tripunittura).

419. *Parāśara* as referred to by Gurudeva, *Gurudevapaddhati*, Part IV, p. 317 (T. S. S. Ed.).

420. *Mayamata* (T. S. S. Ed.), Ch. XXX, sts. 26-29.

Kāśyapa⁴²¹ observes :—

“ नीत्रमायां च मध्ये तु द्वारपट्टिकपार्श्वयोः ।
 लोहजं वलयोपेतं एतानिकोलबन्धनम् ॥
 लोहजं दारुजं वाऽथ बाह्याभ्यन्तरं तथा ।
 तासां त्रिमङ्गलं नीत्रं तारार्धघनसंयुतम् ॥
 बद्ध्वा कवाटे योगौ द्वौ दारुलोहैर्द्विद्वीकृतम् ।
 अर्गलादिसमोपेतं घटनोद्घाटनक्षमम् ॥
 परेषां घटयन्तत्रमप्यसत्त विमाचरेत् ।
 प्रासादे मण्डपे चैव गोपुरे चैवमाचरेत् ॥”

STANZA 33.

Sopāna.

In this stanza the author prescribes the rules pertaining to the construction of the Sopānas or Steps which lead from the foot-rest of the door down to the ground-floor. Their disposition is first described. In their spread out, they start from the Bhuvāṅgama or foot-rest of the main door and descend gradually downwards till they reach the level of the tala or ground-floor. Since their extremity proceeds from either side of door, their length will be equal to the breadth of the doorway. Their breadth will be one and a half or two Daṇḍas (Danda = the breadth of the pillar at the top). They will be symmetrical, of equal dimensions and even in number. This number of steps will be determined with reference to the height of the Adhiṣṭhāna and the distance that these steps cover up. In the determination of their number, the governing condition that they should be even in number should be remembered. The height of steps is conditioned by the number of steps and all the steps should possess equal height. They should be made of hard stone like granite. Both the sides of the steps at the extremity are required to be flanked by granite slabs whose ornamental features are described in the last quarter of this stanza. On the two sides of slabs which in their situation start from the extremity of the two door-posts should be carved two ‘makaras.’ Their head is depicted as turning backwards. From the open mouth of each Makara on each side springs forth creeper-like carving that flows in a gentle curve and

421. Vide *Kāśyapaśilpa*, Paṭala XVII, sts. 18-22 (Ānandaśrama Series).

ends in a scroll at the base. Two slabs ornamented as described are to be made to flank the two sides of the steps at their extremity.

Gurudeva⁴²² states that the steps should be gradual and symmetrical, equal in dimensions and even in number and one and a half or two Dandas in breadth. Thus says he :—

“ समखण्डानि कुर्वीत सोपानानि यथाक्रमम् ।
द्विदण्डं वाध्यर्धदण्डं भवेद्धस्तबिलं ततः ॥”
(भवेत्तद्बहलं ततः ॥) [*Silparatna*]

STANZA 34.

The Ghanadvāras.

After having dealt with the details connected with the construction of the real door in front of the sanctum, the author proceeds, in this stanza, to describe the Ghanadvāras. They are three, on the three sides. We call them false, because they are not intended to serve the function of door. Their breadth (i.e. the breadth between the posts) is smaller in proportion than the breadth of the real door. It is $\frac{5}{8}$ of the breadth of the front-door. Their height is twice or two and a half times their breadth. The thickness of the posts is not given and it should therefore be presumed that it is the same as the thickness of the posts of the real door. The thickness of the posts compared with the breadth of the false door being of considerably larger proportion, these three doors are called ‘Ghanadvāras’ or thick doors. From the trend of the author’s treatment it appears that these Ghanadvāras should be constructed before the walls are set up. From this it is possible to presume that they are to be made of wood according to the view of the author. The author seems to follow the old traditional method of construction in which wood plays a very prominent part. In later day structures, however, Ghanadvāras are found built on the wall in which case, they are wrought of the same material as that which entered into the composition of the wall. *Toranas* which adorn the portion above the Ghanadvāras and which are specially associated with the Ghanadvāras are thus required by Gurudeva to be made in the wall of the same material as that which makes the wall.⁴²³ This transformation of the ornamental doors in material of construction

422. *Gurudevapaddhati* (T. S. S. Ed.), Paṭala XXXII, st. 80 (Uttarārdha).

423. *Ibid*, Uttarārdha, Paṭala XXXII.

as well as in method thereof seems to be the result of the gradual influence of the wall with which the Ghanadvāras are found closely associated.

The Ghanadvāras also will have the same decorative parts which the real door is said to possess. In support of the text, Śaṅkara⁴²⁴ cites the following lines from an authority whose name is not however found mentioned.

“ पुरोद्वारस्य विस्तारे त्वष्टमक्तेऽत्र पञ्चभिः ।
घनद्वारस्य विस्तारं ततो द्विगुणदैर्घ्यकम् ।
द्विगुणार्धं तु वा दैर्घ्यं घनद्वारगतं शुभम् ॥”

STANZA 35.

Toranas

Three kinds of Toranas or arches which adorn the Ghanadvāras are next described. The three are called *Patratoraṇa*, *Makaratoraṇa* and *Citratoraṇa*. These names are coined on the basis of the dominant ornamental features which characterise the composition of each of the Toranas. The upper element of the Torana is a curvature which should be made in the form of a fish. The size of the fish may have any one of the proportions $\frac{3}{10}$, $\frac{1}{3}$, $\frac{2}{5}$ of the height of the pillar. The rest, viz., $\frac{7}{10}$, $\frac{2}{3}$ or $\frac{3}{5}$ will constitute the height of the legs (i.e. pillars of the Toranas). The breadth of the Torana may be either half the height of the pillar or 4, 5, or 6 Daṇḍas (Daṇḍa=breadth of the pillar at the top). When it is given the shape of a crescent associated with the ornamentations of the leaf and creeper motifs, it is called *Patra Torana*. When it is marked by Makarāśyas (i.e. mouths of Makaras) and five bends, it is termed *Makara Torana*. When it is decked with varied motifs of sportive birds, crocodile heads etc., it is called *Citra-Torana*. Kāśyapa, in this connection, mentions in addition Bhūtas (goblins), Vidyādhara (semi-divine beings), lions, elephants, swans, vyālas, pearl-lace, jewellery, fishes and other decorative patterns among the ornaments of the Citra Torana. The following extract from the *Kāśyapaśulpa* will serve to confirm and amplify the author's description of the Toranas:—

“ अथ वक्ष्ये विशेषेण तोरणानां तु लक्षणम् ।
पादोदयदशशेषु सप्तांशं चरणोदयम् ॥

424. *Tantrasamuccaya* with *Vimarśinī*, Part I, p. 70 (T. S. S. Ed.).

शेषांशं गुणमानं तु शेषमानमुदाहृतम् ।
 नवांशे पादतुङ्गे तु षडंशं चरणोदयम् ॥
 शेषं शेषोदयं ख्यातमष्टांशे चाङ्घ्रितुङ्गके ।
 पञ्चांशं चरणोत्तुङ्गं शेषोत्सेधं गुणांशकम् ॥
 तुङ्गार्धविपुलो वाथ वेदभूतरसाङ्घ्रि वा ।
 तोरणस्य तु तद्वाद्ये व्यासमेवं चतुर्विधम् ॥
 प्रासादमण्डपादीनां मध्यभागे तु तोरणम् ।
 अनेन विधिना विप्र ! कर्तव्यं कुड्यबाद्यके ॥
 पत्राख्य तोरणं चादौ द्वितीयं मकर तोरणम् ।
 तृतीयं चित्रसंज्ञं च त्रिविधं तोरणाकृति ॥
 अर्धचन्द्रमिवाकारपत्रराजिविराजितम् ।
 पत्र तोरणमाख्यातं ततो मकरमुच्यते ॥
 पञ्चवक्रसमायुक्तं पार्श्वयोर्मकरान्वितम् ।
 मध्ये पुरिसमायुक्तं नानाविधलतान्वितम् ॥
 नानालङ्कारसंयुक्तं यत्तन्मकर तोरणम् ।
 तदेव पार्श्वयोर्मध्ये पुरि मत्स्यद्वयोरपि ॥
 नक्रतुण्डं प्रकर्तव्यं भूतविद्याधराङ्गकम् ।
 सिंहेभव्यालहंसाद्यैर्बाल्लङ्मुक्तदामकैः ॥
 मत्स्यैश्च विविधैश्चित्रै रत्नबन्धैश्च भूषितम् ।
 चित्र तोरणमेतत् स्यात् [सर्वेषु सुरसद्मसु]⁴²⁵ ॥”

STANZA 36.

The Construction of the Wall.

After having described the pillars and doors, the author treats of the wall and its decorations. In this stanza, the writer Nārāyaṇa tells us that the wall should be constructed above the Prati (the topmost moulding of the basement) and below the Uttara (the beam). It should be made of firm and permanent material like stone, bricks etc. It must be embel-

425. *Ibid.*, pp. 70-71;Also, Vide *Kāśyapaśilpa* (Ānandāśrama Series), Pat. XII, sts. 1-11.

lished with Vedikā, Pañjaras and other ornamentations which are described in the subsequent stanzas. An unnamed authority is cited by Śaṅkara in support of the disposition of the wall as stated in the text. It states:—

“ प्रत्युत्तरान्तरे भित्तिजलेष्टकशिलामयो⁴²⁶ ॥”

With regard to the materials to be used, Śaṅkara cites Gurudeva, who enumerates different materials such as stone, bricks, wooden planks decked with lattice-work and clay.

Gurudeva observes as follows:—

“ कुड्येषु तोरणानि स्युस्तत् कुड्यं पञ्चधा स्मृतम् ।
शिलामयं चैष्टकं च जालकामयमित्यपि ॥
फलकामयमित्यन्यन्मृण्मयं चापरं क्रमात्⁴²⁷ ॥”

STANZA 37.

The Characteristics of the Vedikā.

The portion of the wall at its foot known as Vedikā is formed of several mouldings. The author, in the former half of this verse (37), states the alternatives regarding the height of the Vedikā and in the latter half describes the mouldings which constitute the Vedikā. Seven alternative proportions are given from the point of view of the height of the Prati, the height of the pillar and the breadth of the pillar. They are (1) as much as the height of the Prati; (2) $\frac{1}{8}$ of the pillar; (3) $\frac{1}{7}$ of the pillar; (4) $\frac{1}{6}$ of the pillar; (5) $1\frac{1}{2}$ times the breadth of the pillar; (6) 2 times the breadth of the pillar; (7) 3 times the breadth of the pillar. Any one of these heights having been fixed for the ‘Vedikā’, this height must then be divided into several parts. It may be divided into two equal parts, of which the upper must be given to the making of ‘Guṇa-raśanā’ (three-fold band), and the lower half to ‘Antari’. Or, the height of the Vedikā may be divided into parts eight, seven or six, in which case, one part, two parts and one part thereof will be given to the mouldings Kampa, Abja and Kampa respectively and the remain-

426. *Tantrasamuccaya* with Vimarśinī (T S S. Ed.), Part I, p. 71.

427. *Īśānagurudevapaddhati*, *Uttarārdha* XXXII, 9, 10;
and *Tantrasamuccaya* with Vimarśinī, Part I, p. 72

ing ones left to the Gala below. Statements from different authorities support the observation made in the text. With regard to the disposition of the Vedikā, the following line is found quoted by Śaṅkara:—

“ प्रतेरुपरि वेदिः स्यात् प्रत्युत्सेवेन सम्मिता⁴²⁸ ।”

Maya says the following concerning the disposition and height of the Vedikā:—

“ प्रतेरुपरि वेदिः स्यात् सार्धद्वित्र्यङ्घ्रिणोदिता⁴²⁹ ॥”

Kāśyapa gives three proportions, $\frac{1}{6}$, $\frac{1}{7}$, $\frac{1}{8}$ the height of the pillar, and regards them as belonging to the best, the middling and the lowest types. The text of the *Kāśyapaśilpa*⁴³⁰ runs as follows:—

“ स्तम्भोदये तु षट्सप्तवसुभागविभाजिते ।
एकांशं वेदिकामानं क्रमाच्छेषान्तराधमम् ॥”

With regard to the mouldings of the Vedikā, Kāśyapa⁴³¹ continuing observes:—

“ अष्टांशे वेदिकोत्सेधे वेदाङ्गं गलमानकम् ।
गलोर्ध्वकम्पमेकांशं द्व्यंशेनाब्जं प्रकल्पयेत् ॥
तदूर्ध्वकम्पमेकांशं कर्तव्यं द्विजसत्तम । ।
स्वरषडंशे वेद्युच्चे त्रिद्व्यंशं च क्रमाद् गलम् ॥
कम्पं पद्मं च कम्पं च प्रागिवैवं प्रकल्पयेत् ॥”

According to the following line of Murāri, the Vedikā is to be ornamented with three-fold band and Antari:—

“ मेखलात्रयसंयुक्ता वेदिकान्तरिभूषिता⁴³² ॥”

This authority is found quoted in the commentary of Śaṅkara.

428. *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.), Part I, p. 72.

429. *Mayamata*, XVI, 51 (T S S. Ed.).

430. *Kāśyapaśilpa*, X, 4 (Ānandāśrama Series); *Vimarśinī* (T S. S. Ed.), p. 72. We have adopted Śaṅkara's reading of Kāśyapa.

431. *Kāśyapa* X, 8, 9, 10; also vide *Tantrasamuccaya* (T. S. S. Ed.); Part I, p. 73 [Śaṅkara's reading].

432. *Tantrasamuccaya* (T. S. S. Ed.), Part I, p. 72.

STANZA 38.

The Wall Ornamentations.

In this verse, the author refers to the wall-ornamentations. These ornamentations, depend upon the size of the structure. All *Prāsādas*, of whatever class, will have *Aṅghris* (pillars), *Toraṇas* (arches), and four *Dvāras* (doors). In the smallest type of structures that have a measure less than 5 cubits, these three elements will be found. But proportionate to the increase of measure additional items are enumerated. Thus in *Prāsādas* which have 5 cubits etc. of measure, pillars will be additionally ornamented, and between the ornate pillars there will be introduced ornamentation in the shape of *Pañjaras* adorned with *Jālas*. *Pañjara* is a nest and *Jāla* a perforated screen. *Pañjara* and *Jāla* are not found treated here as separate and individual motifs. They are considered as a composite ornamentation. The whole will mean window-motif accompanied by a perforated screen-motif. In larger measure type (such as the 7 cubits type etc.) there will be at the base of the wall and in its four corner positions *Kūṭas*, which are miniature structures employed as ornamental motifs. In still larger measure type (viz., 9, 11 cubits etc.) there will be included in addition to *Jālapañjaras* and *Kūṭas*, *Nāsikās* and *Sālās*. *Nāsikā* is an ornamentation designed after the shape of the nose. *Sālās* are elongated sacrificial halls and their replicas in small measure are used as ornamental patterns on the *Prāsādas*. In the course of the enumeration of ornamentations of the wall, it will be noted that the bigger the structure is the greater are the details of its decoration and this view of the builders is based on the sound aesthetic principles of proportion and harmony. A keen sense of decoration does not allow the presence of large blank space in the area of the various members of a building.

The following lines⁴³³ from the *Nibandhana* collected and put together confirm and amplify the author's enumeration of the various decorative patterns with reference to the size of the structure:—

“ त्रिहस्ते दण्डविस्तीर्णास्तदर्धबहलाः शुभाः ।
 द्वादशैव चतुष्कोणमध्यस्थाः कुड्यपादकाः ॥
 पार्श्वयोः पृष्ठतो युक्तास्तोरणैरुज्ज्वलैस्त्रिभिः ।
 तोरणत्रयसंयुक्ते पञ्चहस्तेऽष्टपञ्चरे ॥

433. *Ibid*, p. 74;

These stanzas are found in different places in Patala XIII of the *Sawāgamanābandhana* (Ms. from Tripunittura).

जालकानि त्रिभिर्दण्डैर्नन्धावर्तदिकानि च ।
 तुर्याश्राणि गवाक्षाणि गजेन्द्रनयनानि च ॥
 लताश्च विविधास्तत्र कारयेत् स्वस्तिकानि वा ।
 कुड्यस्तम्भास्तथा कुर्यान्मूलाश्रान् कुम्भमण्डितान् ॥
 सप्तहस्ते च चित्राढ्यं तोरणं मकरोज्ज्वलम् ।
 पत्रैश्चित्राकृतं कुर्यान्मध्ये रत्नादिमण्डितम् ॥
 मण्डितान् कुड्यपादांश्च द्वादशैवात्र पूर्ववत् ।
 कर्णकूटांश्च परितः शालापञ्जरकोष्ठकम् ॥
 पूर्ववन्मण्डितान् स्तम्भान्नवहस्ते तु मन्दिरे ।
 कर्णकूटैश्च संयुक्ते शालापञ्जरतोरणैः ॥
 एकादशकरे स्तम्भा विंशतिर्मण्डितान्विताः ।
 दिक्षु चत्वारि चत्वारि पञ्जराणि शुभानि च ॥
 नास्योऽत्र षोडशोर्ध्वं च शिखरे हारकास्तथा ।
 त्रयोदशकरे स्तम्भा विंशतिर्मण्डितास्तथा ॥”

STANZA 39.

The Dimension and location of Śālās etc.

In this stanza, the author deals with the divisions known as Kūtas, Śālās etc. The vistāra of the Bhitti being divided into parts 10, 9, or 8, with one part thereof for its vistāra and the same (i.e. one part) for its length, make Kūtas at the four corners; with two parts for its length and one part for its vistāra make Śālās on the four main sides such as the East etc; with three-fourth of a part for its length and the same for its vistāra make Nāsikā between the Śālās and Kūtas. On either side of the Nāsikās, make Pañjaras with Jālas with three-fourth of a part for the length and vistāra. The disposition of these several decorative designs is based upon the statement of Gurudeva which runs as follows⁴³⁴ :—

“ कर्णमध्येऽन्तरे भित्तेरथवा मानसूत्रतः ।
 निर्गतैरुक्तमानेन कूटकोष्ठकपञ्जरैः ॥
 गजपृष्ठादिभिश्चोक्तैः कुर्यादवयवैर्युतम् ॥”

434. *Gurudevapaddhati*, Uttarārḍha, Patala XXVIII, 33(2), 34 (T. S., S. Ed.); Gurudeva as quoted in the *Vimarśinī*, page 75.

STANZA 40.

Kūṭas and Śālās.

The characteristic features of *Kūṭas* and *Śālās* are given in this verse. *Kūṭa* is a replica of the *Prāsāda*; it will have the same shape which the *Prāsāda* has, and it will possess all the essential parts which enter into the composition of the *Prāsāda* except the *Adhiṣṭhāna*. These parts which make a *Kūṭa* begin from above the 'Prati' the topmost element of *Adhiṣṭhāna* and end with *Stūpikā*, the finial, the final element of the *Prāsāda*. It has a beautiful *Nāsikā* adorning its centre. With regard to its proportion, it will be noted, that it is $\frac{1}{3}$ of the *Prāsāda* (i.e. the *Sanctum sanctorum*). The length and breadth are equal and hence it will be square in plan like the *Prāsāda* itself. The term 'Dhāman' employed here is a synonym of *Prāsāda*. Concerning '*Śālā*,' as has been already observed in the previous verse, the length is double the breadth. In the latter half of this stanza, the author states the parts which adorn a *Śālā*. *Śālā* has the same projection as the *Kūṭa* has. Peculiar to itself, it has a *Mukhapatti* or band running round in front. Among other ornamentations of *Śālā*, mention must be made of '*Śakti*,' '*Dhvaja*' and '*Nāsa*.' It will have, by virtue of its elongated shape, three *stūpikās* (or finials).

The following text of Gurudeva⁴³⁵ supports the author's description of the *Kūṭa* and *Śālā*:—

“ कूटोऽष्टांशेन सन्ननः ।
 शाला च तावती रम्या विस्तारद्विगुणायता ।
 कर्णाश्रितं मध्यमैकनासिकं स्तूपिकान्वितम् ॥
 प्रासादावयवं प्राज्ञाः कूटं नाम प्रचक्षते ।
 सायतं समुखपट्टिकमर्धस्पष्टकोटियुतमध्यमनासम् ।
 शक्तिमद्ध्वजमपि त्रिशिखं तत् पार्श्वयोर्बहुशिखं खलु कोष्ठम् ॥
 शिखाशब्देन स्तूपिकोच्यते कोष्ठमिति शाला च ॥”

435 *Gurudevapaddhati*, Uttarārdha, Patala XXVIII, Sts 35(2), 36; *Tantra-samuccaya* (Vimarśinī), (T. S. S. Ed.), Part I, p. 75.

STANZA 41.

Pañjara and Jālaka.

The *Pañjara* will have equal length and breadth, which may be 2, 3 or 4 Dandas. It will be decorated with *Nāsa*. The ornamentation known as *Jālaka* will have a breadth which may be 2, 3, or 4 Dandas and length which is 1 Danda more than the *vistāra*; or, increasing by one Danda, it may lead up to twice the *vistāra*. It will be ornamented by holes or perforation designed after the zig-zag fashion resembling the *Gomūtraka*. Its position is above the *Vedikā*. *Parāśara*⁴³⁶ observes:—

“ द्वाभ्यां त्रिभिश्चतुर्भिर्वा कुड्यस्तम्भेऽस्तु पञ्जरम् ।
मुखे शालामुखे चैकस्तूपिकं हस्तिपृष्ठवत् ॥
पञ्जरं नाम तत्प्रोक्तम् ॥”

*Kāśyapa*⁴³⁷ lays down the proportions in the following lines:—

“ द्विदण्डं कन्यसव्यासं त्रिदण्डं मध्यमं भवेत् ।
चतुर्दण्डविशालं तु उत्तमं परिकीर्तितम् ॥
विस्तारसदृशोत्सेधादेकदण्डविवर्धनात् ।
विस्तारद्विगुणं यावत् तावद् वै जालकोन्नतम् ॥”

STANZA 42.

Kumbhalatā : The Pot-and-Creeper ornament.

This ornamentation called *Kumbhalatā* or Pot-and-creeper ornament, which is specially prescribed in connection with the beautification of a *Mahāprāsāda* or temple of the Big Class of Structures, is described in the present stanza. It is wrought between the pillars. Its lower part is a *Padma* or Lotus. The height of the *Padma* in which the *Kumbha* or vase sits is as much as the *vistāra* of the pillar and its breadth is one

436. Quotation from the *Tantrasamuccaya* with *Vimarśinī*. (T. S. S. Ed.), Part I, p. 75.

437. *Kāśyapaśilpa* (Ānandāśrama Series), XI, 4(2), 5, 6(1). Also vide the *Tantrasamuccaya* (T. S. S. Ed.), Part I, page 76 [We have adopted Śankara's reading].

and a quarter of the breadth. According to Kāśyapa, the height of the Padma should be divided into 8 parts and one part should be given to the moulding called Kampa, three parts to the lower Padma, one part to the Gala, two parts to the Ūrdhwapadma and one part to the Kampa above. The Kumbha which comes above will have the same height as the height of the Padma. The creeper springs forth from the mouth of the Kumbha. According to the *Mañjarī* the height of the Kumbhalatā may be equal to the measure between the Prati and the Uttara or even one and a quarter times this measure.

*Kāśyapa*⁴³⁸ states :—

“ स्तम्भमूले तु वेद्यूर्ध्वे पद्मासनं प्रकल्पयेत् ।
पादव्याससमुत्तुङ्गं सपादं पद्मविस्तरम् ॥
पद्मोच्चं वसुधा भज्य कम्पमेकांशमुच्यते ।
अधः पद्मं गुणांशं तु एकांशं गलमुच्यते ॥
ऊर्ध्वपद्मं द्विभागं तु कम्पमेकेन कल्पयेत् ।
तदूर्ध्वे कुम्भतुङ्गं तु पद्मस्योच्चसमं भवेत् ॥”

The *Mañjarī*⁴³⁹ states as follows :—

“ प्रत्युत्तरान्तरसमां विदधीत सम्यक् पादाधिकामपि
च कुम्भलतामतोऽपि ॥”

STANZA 43.

The ornamental features of an Alpaprāsāda.

Ornamentation which is special to the Alpaprāsāda is described here. In stanza 38, it was observed that Alpageha, because of the small space that it admits, permits limited ornamentation. In the subsequent stanzas, those ornamentations which enter into the composition of the Mahāprāsādas have been described. Now, in this stanza (No. 43), the author deals with the ornamentation that is peculiar to the Alpagehas. Divide

438. *Kāśyapaśilpa* (Ānandāśrama Series), XV, 1-3. For quotation, also vide the *Tantrasamuccaya*, Part I, p. 76 (T. S. S. Ed.)

439. *Prayogamañjarī*, Patala VI (Ms. Adyar Mss. Library, Madras); also vide the *Tantrasamuccaya Vimarśinī*, Part I, p. 77 (T. S. S. Ed.).

the height of the structure between the Prati and the Uttara into 8 parts and from bottom upwards construct mouldings as stated below:—

Vedi:—1 part.

Pādas (or miniature ornate pillars):—4 parts.

Valabhyuttara:—1 part. (This is a composite moulding composed of *Valabhi* and *Uttara*).

Valabhi has half a part for its height and projection equal to the height. It comes above the *Uttara*. *Uttara* is made of half a part and it is the beam which runs on all the sides of the wall sitting above the ornate pillars (*Pādas*) situated beneath it.

Kapota:—1 part. It is made in the form of a pigeon's beak. It corresponds to what is known as 'Cornice'.

Gṛhapīṇḍi:—1 part. This is the finishing moulding of the wall. It is ornamented with its own pillar-ornamentations. Above this, there is no more ornamentation. *Uttara*, the beam of the structure, is situated above it.

This brings us to the end of the section on the wall, and the parts that are dealt with hereafter relate to the beam (*Uttara*), ceiling (*Prastara*), roofing (*Śikhara*) etc.

STANZA 44.

The Characteristics of the Uttara.

In the six-fold division of an Indian temple, *Prastara* is the third from bottom upwards and it is situated above the *Stambha* and below the *Gala*. The various mouldings major and minor which enter into its composition are referred to by the author in stanza 53. Among the divisions of *Prastara*, *Uttara* the beam constitutes the most important structural member. It is a horizontal structural division, rectangular in shape. It sits on the walls if walls are present, or on columns, and in the latter instance it extends from column to column. It is treated as a bearing member upholding the load of the roof and the synonyms found mentioned in the *Mānasāra* point towards this essential function of beam ('*Uttara*'). Says the *Mānasāra*⁴⁴⁰:—

440. *Mānasāra* Text (P. K. Acārya's Ed.), Ch. XVI, lines 56-58.

“ उत्तरं वाजनमाधारमाधेयं शयनं तथा ॥
 उद्धृतं च मूर्धकं चैव महातौलि खवंशकम् ।
 प्रच्छादनस्य चाधारमेतत्पर्यायमीरितम् ॥”

In the view of the author of the *Tantrasamuccaya* which is set forth in the opening stanza of this Paṭala, Uttara is the starting point of measure with reference to which the general measure of the structure is spoken of. Hence it forms one of the most important of architectural divisions.

The present stanza deals with the three types of Uttara, differentiated on the basis of their relative breadth and thickness. The classes are called *Khaṇḍottara*, *Patrottara* and *Rūpottara* and they are characterised in order as the best, the middling and the lowest types. The first, known as *Khaṇḍottara*, which belongs to the best variety, has thickness and breadth equal to the *vistāra* of the pillar at the base. It has thickness which is as much as its breadth and this breadth is the same as the breadth of the pillar. *Patrottara* which comes under the middling type has thickness which is three-fourths of this breadth of the *Khaṇḍottara*. The last class of Uttara, namely, the *Rūpottara* possesses as much breadth as has been prescribed for the *Khaṇḍottara*. Its difference lies in its thickness which is half of the breadth. From what has been stated above, it is clear that the breadth prescribed for all the three types of Uttara is common having reference to the breadth of the pillar at the base as it is described as equal to the same of the pillar at the base. The difference therefore lies in the proportion laid down for the thickness, which in the first instance is as much as the breadth, in the second one-fourth less than the breadth, and in the last half less.

With regard to the situation of the last type, namely, the *Rūpottara*, it is said that the position can be reversed as one pleases. That is to say, the Uttara whose thickness is less than its breadth may be so placed that the breadth is made the depth. This reversed position is termed ‘*Cūḷi*’ by the author of the *Manuṣyālayacandrīkā*. Says he :—

“ उत्तरविस्तारघने व्यत्यस्यापि प्रकल्पयेत् कापि ।
 तत्र तु चूलीति मता तस्यामेवार्पयेत् लुपाः⁴⁴¹ ॥”

441. *Manuṣyālayacandrīkā* (T. S. S. Ed.), Ch. V, stanza 32.

The three classes of Uttara described above are referred to by other authors in the same way, and the quotations given below will serve to support the classification given in our text.

Thus Gurudeva⁴⁴² observes :—

“ उत्तरं विन्यसेदूर्ध्वं तच्चापि त्रिविधं मतम् ।
 खण्डोत्तरं पत्रबन्धं ततो रूपोत्तरं भवेत् ॥
 स्तम्भविस्तारविस्तीर्णमुन्नतं चाङ्घ्रिजातिजम् ।
 खण्डोत्तरं स्यादेतस्मात् पादोनं पत्रबन्धकम् ॥
 स्तम्भव्याससमोत्सेधमुत्सेधार्धेन विस्तृतम् ।
 विपरीतं तु वा नीचं रूपोत्तरमिदं भवेत् ॥”

The *Mayamata*⁴⁴³ mentions three types of Uttara in the ‘Prastara-prakarana’ :—

“ उत्तरादिवृतेरन्तं प्रस्तारावयवं क्रमात् ।
 वक्ष्ये संक्षिप्य सर्वेषां हर्म्याणामथ योग्यकम् ॥
 उत्तरं त्रिविधं पादविस्तारं तत्समोद्गमम् ।
 त्रिपादोदयमध्योच्चं विस्तारं पादतः समम् ॥
 खण्डोत्तरं पत्रबन्धं रूपोत्तरमिति त्रिधा ॥”

Patrottara in the above text is called ‘*Patrabandha*,’ and it is so called because of the ornamental pattern ‘*Patra*’ which enters into its composition.

For similar classification of Uttara refer to the *Mañjarī*⁴⁴⁴ which states :—

“ विस्तारतीव्रेण समानि पादैर्भूयोत्तराणि प्रविधाय सम्यक् ।
 खण्डोत्तरं पत्रविभूषितं च रूपोत्तरं च त्रिविधं भवेत्तत् ॥”

442. *Īśānagurudevapaddhati*, Uttarārdha, Patala XXXI, 75, 76, 77 (T. S. S. Ed.), also, vide the *Vimarsinī*, pp 77, 78.

443. *Mayamata* (T. S. S. Ed.), Ch. XVI, sts. 1, 2, 3.

444. *Prayogamañjarī*, Pat. VI (Ms. from the Adyar Mss Library, Madras).

The *Nibandhana*⁴⁴⁵ thus states :—

“ खण्डोत्तरं च पत्रादयं रूपोत्तरमिति त्रिधा ।
उत्तरं चतुरश्रं च सप्तमाष्टांशेन विस्तृतम् ॥”

STANZA 45

Ornamentation of Rūpottara.

In this stanza the author deals with the ornamentation called ‘*Vājana*’ which is wrought on the *Rūpottara*. The *Rūpottara* may be associated with one *Vājana* or two *Vājanas*. In the former case the thickness is divided into five parts and two parts are given to the *Vājana*. In the latter case, the thickness is divided into six parts, and one part is set to the construction of an *Alpavājana* (small *Vājana*) and two parts above it to the moulding of the *Mahāvājana*. The projection of the *Vājanas* will be as much as their own thickness. This rule with regard to the projection is also the one approved by the author of the *Kāśyapaśilpa*, who says :—

“ वाजनोच्चसमं प्रोक्तं वाजनस्य तु निर्गमम्⁴⁴⁶ ॥”

In support of the proportions of the *Vājanas* described above, the commentator Śaṅkara quotes the following lines which are ascribed to Gurudeva⁴⁴⁷ :—

“ उत्तरोच्छ्रयषड्भागत्रिभागं घनमानकम् ।
एकांशं वाजनोत्सेधं द्व्यंशं चैवार्धवाजनम् ॥”

In the last quarter of the stanza, the author states the proportion of the *Paṭṭikā* which is to be placed above the *Uttara*. The depth of the *Paṭṭikā* will be equal to the thickness of the ‘*Uttara*’ and its breadth will be half of this depth. Such a *Paṭṭikā* is fixed on the *Uttara* a little extended outwards and runs all around the *Uttara*. In the *Manusyālaya-candrikā* it is called ‘*Kṣudrottara*’ or small *Uttara*. The *Uttarapaṭṭikā*

445 *Saivāgamabandhana*, Pat XIII, (Ms. from Tripunittura).

446 *Kāśyapaśilpa*, Patala XIX, 13. (Ānandāśrama Series)

447. *Gurudevapaddhati*, stanza quoted in the *Vimarśinī*. Vide T. S., Part I, page 78.

forms the resting place for the rafters. This is stated in the stanza⁴⁴⁸:—
 “ कुर्यादुत्तरपट्टिकोपरि लुपाः etc. ॥”

The following lines from the *Manusyūlayacandrikā*, which describe in close succession the process in the construction of the Uttara and the proportions of the parts of the Uttara, are noteworthy :—

“ स्तम्भाधस्तारभेदप्रकथनविधिनैवोत्तराणां च तारं
 स्वामीष्टं कल्पयेद् वा वसुवसुयुगलार्कोर्मिसङ्ख्याङ्गुलैर्वा ।
 श्रेष्ठं खण्डोत्तरं तद्विततिसमघनं मध्यमं पत्रसंज्ञं
 पादोनोच्चं कनिष्ठं विततिदलघनं तत्तु रूपोत्तराख्यम् ॥
 उत्तरविस्तारघने व्यत्यस्यापि प्रकल्पयेत् कापि ।
 तत्र तु चूलीति मता तस्यामेवार्पयेत लुपाः ॥
 एक एव यदि वाजनं भवत्युत्तरस्य शरभाजिते घने ।
 उच्चमंशयुगलेन निष्क्रमोऽप्यस्य पट्टमवशिष्टभागतः ॥
 अल्पवाजनयुतोत्तरे घने नागभागिनि महत् त्रिभागतः ।
 एकतोऽल्पमुभयोश्च निष्क्रमः खोच्चतो भवति पट्टमब्धिभिः ॥
 बाणांशिन्यखिलोत्तरस्य तु घने द्वाभ्यां महद् वाजनं
 चैकेनाल्पमथातनोतु महितं पट्टं च शिष्टांशतः ।
 अब्ध्यादीश्वरपश्चिमांशिनि घने सर्वोत्तरस्यैकतो
 युक्त्या वाजनयोश्च निष्क्रममथान्यत्रापि चैवं विधिः ॥
 स्तम्भमूर्धनि निधाय पोतिकासुत्तरं तदुपरि प्रकल्पयेत् ।
 पोतिकाविवरतः समुद्रतस्तम्भमस्तकशिखाहितावटम् ॥
 अथोत्तरोच्चोच्चतदर्धतारां क्षुद्रोत्तराख्योत्तरपट्टिकां च ।
 सङ्कीलयेदुत्तरबाह्यपश्चादूर्ध्वं दृढैः खोचितदारुकुलैः⁴⁴⁹ ॥”

448. *Tantrasamuccaya*, Patala II, st. 48.

449. *Manusyūlayacandrikā* (T. S. S. Ed.), Ch. V, stanzas 31-37.

STANZA 46.

The Wooden Ceiling.

The construction of the ceiling with wooden beams and planks forms the subject-matter of this verse. To fix up the ceiling, an 'Uttara' called 'Vājanottara' must be made and placed on the regular Uttara inwards. It will be one Daṇḍa, or three-fourth of a Daṇḍa, or half a Daṇḍa in height. The maximum height prescribed for the Vājana is one Daṇḍa, and the term 'ādi' indicates other alternative proportions $\frac{3}{4}$, $\frac{1}{2}$, and $\frac{1}{4}$. A deduction of one-fourth is first mentioned and extending this principle, the other alternatives of half and a quarter result. Place on the Vājanottara the cross-beams called *Tulās* breadthwise to the structure (i.e.) in the direction of the East-West line if the structure faces the East. The height (i.e. the thickness) of the *Tulās* will be one Danda and their breadth three-fourth of a Daṇḍa. Above the *Tulās*, in the direction of the Uttara place 'Jayantis' with a thickness half cut into the 'Tulās.' *Jayantis* must be made like *Tulās* and placed cross-wise to the *Tulās*. 'Vamśa' means the 'Uttara' and 'Anuvamśa' consequently means in the direction of the Uttara which is the North-South line in the case of a structure which faces the East. 'Tulās' in this instance, occupy the East-West direction and Jayanti the North-South line. Jayanti is described as 'Khandadāru,' or a piece of wood, in the *Vivarana*. In temple architecture Jayantis are given the same dimensions as the *Tulās*, but in secular structures, as in the case of an ordinary human dwelling, they possess lesser proportion. The author directs the architect to secure an even surface for the beams of the ceiling and determine the 'Anumārgas' or interspaces between the cross-beams. After having fixed up the 'Anumārgas' planks which have suitable thickness should be spread out and the upper portion should be completely covered up, leaving no hole anywhere.

In support and amplification of the above description, the following lines from allied literature may be cited.

Gurudeva⁴⁵⁰ thus observes :—

“ उत्तरोपरि कुर्यात्तु वाजनं तस्य कथ्यते ।
 त्रिचतुष्पञ्चदण्डानामायामस्तस्य सम्मतः ॥
 स्तम्भविस्तारपादं वा त्रिपादं वोच्छ्रितं भवेत् ।

450. *Gurudevapaddhati*, Uttarārdha, Pat XXXI, stanzas 81-86 (T. S. S. Ed).

[दण्डोच्चं वा त्रिपादं वा वाजनं पूर्ववत् स्मृतम् ॥]
 वाजनस्योपरिष्ठात् तु कुर्याद् भारतुलावलिम् ॥
 स्तम्भविस्तारामांशमुच्छ्रितार्धेन विस्तृता ।
 तुलावली स्यात् तासामप्यूर्ध्वं कुर्याज्जयन्तिकाः ॥
 तुलाविस्तारमानोच्चा यथालाभं सुविस्तृताः ।
 जयन्त्यश्चानुमार्गः स्याद् दण्डार्धबहलश्चितः ॥
 अर्धसममुच्चः स्यादथ पार्श्वानुगोत्तरम् ।
 वाजनं च तुलाद्वारानुगताः स्युस्ततोऽपि च ॥
 वंशानुगा जयन्त्यः स्युस्तुलावदनुमार्गकाः ।”

The *Nibandhana*⁴⁵¹ observes :—

“ स्तम्भत्रिभागबहलां पट्टिकासमनिष्क्रमाम् ।
 उत्तरोपरि विन्यस्य लुपास्तस्या नियोजयेत् ॥”

The *Mañjarī*⁴⁵² states :—

“ उत्सेधतो दण्डविनिर्मितां च तत्पादहीनां बहलेन भूयः ।
 कुर्यात्तथा भारतुलां जयन्तीमुत्सेधविस्तारसमां तथैव ॥
 दण्डार्धतुल्यो बहलेन तस्मादुत्सेधतोऽप्यर्धमितोऽनुमार्गम् ।
 उत्सेधतो दण्डसमं विदध्यात् तस्योर्ध्वतः प्रस्तरमत्युदारम् ॥
 पार्श्वानुगास्तूत्तरपट्टिकाः स्युर्द्वारानुगाः भारतुलाः भवेयुः ।
 वंशानुगास्तत्र जयन्तयोऽपि प्रवेशमार्गानुगतोऽनुमार्गः ॥
 स्तम्भाः धरेयुस्त्वथ चोत्तराणि तान्येव ताः भारतुलाः धरेयुः ।
 ताभिर्ध्रियन्तेऽथ जयन्तयो हि ताभिर्ध्रियन्ते च तथानुमार्गः ॥”

The *Mayamata*⁴⁵³ states as follows :—

“ वाजनोर्ध्वं वलीकोर्ध्वं तुलां सम्यङ्निवेशयेत् ।
 दण्डोच्चं वा त्रिपादोच्चमर्धतारसमन्वितम् ॥

451. *Saivāgamanibandhana*, Pat. XIII (Ms from Tripunittura).

452. *Prayogamañjarī*, Patala VI, (Ms. from the Adyar Mss. Library).

453. *Mayamata*, (T S. S. Ed.), XVI, 36, 40-46.

तुलाविस्तारतारोच्चा जयन्ती स्यात् तुलोपरि ।
 अर्धदण्डेन तत्रोच्चा जयन्त्यूर्ध्वेऽनुमार्गकम् ॥
 तदूर्ध्वे फलका पादपादषड्भागीवक्राः ।
 इष्टकाचूर्णसङ्घातप्रस्तरस्तम्भविस्तरम् ॥
 करालमुद्गिगुल्मासकल्कचिक्कणकर्मवान् ।
 उत्तरं वाजनं चैव तत्पार्श्वानुगतं भवेत् ॥
 तुला द्वारानुयाता हि जयन्ती तिर्थगागता ।
 अनुमार्गं तदूर्ध्वे तु द्वारस्यानुगतं शुभम् ॥
 द्वारतिर्थगता वाथ तुला देवनृपेशयोः ।
 त्रिदण्डं वा द्विदण्डं वा स्याद् वलीकतुलान्तरम् ॥
 द्विदण्डं सार्धमर्ध्वं जयन्त्यन्तरमिष्यते ।
 दण्डान्तरमनुमार्गं निश्छिद्रं स्यात् तदूर्ध्वतः ॥
 अथ चित्रविकल्पाङ्गा विधेया प्रस्तरक्रिया ॥”

STANZA 47.

The Stone Ceiling.

This stanza describes the mode of construction of a ceiling with such material as stone or brick. In this alternative method of construction the direction is given as follows: From above half the height of the door construct from the four corners walls in the Garbha with stones, or bricks according to the *Kadalikākarana* process and thus close up gradually. This process is explained by the commentator thus⁴⁵⁴ :—

“ उपर्युपर्यन्तरन्तः प्रवेशनं कदलिकाकरणम् ॥”

That is to say, *Kadalikākarana* is the laying of stones one over the other and drawing of each layer above inwards. When each layer above is drawn more and more inside the area above becomes less and less and when the same process is continued up to the summit, the top area admits of being capped by one stone-cap. This process begins with the four main sides from half of the altitude of the door and continues up-to the

454. *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.), Part I, p. 79.

top of the door. The upper portion from this summit of the door, obtains the octagonal form, and, when the same is rounded off, it (i.e., the portion above the door and below the stone-cap which is octagonal) presents a handsome wavy appearance. This portion above the door and below the final stone-cap will have a height which is half of the Garbhagrha. The closing up must be made gradual, like the closing of the lotus. The whole ceiling in this peculiar mode of construction with its wavy view and gradual closing at the top like that of a lotus will undoubtedly present to our sight beauty in which the human mind deeply delights. The following authority, quoted in the *Vimarśinī*, supports the author's view :—

“ द्वारार्धात् कदलीकारं द्वारसीमान्तमर्धपुटम् ।
गर्भाच्च कदलिकोत्सेधमथ पूर्णेष्टकं भवेत्⁴⁵⁵ ॥”

STANZA 48.

The Roof

In this stanza, the author prescribes rules which determine the construction and disposition of the rafters (*Lupās*). The commentator Śaṅkara opens his commentary on this verse with the introductory remarks⁴⁵⁶:— ‘ शिखरनिर्माणविधिमाह—कुर्यादिति ’ thereby suggesting that the *Śikhara* corresponds to the roof of a building. The rafters are to be so placed that their lower end must rest on the *Uttarapaṭṭikā*, while their upper extremity must be secured in what is known as the *Kūṭa*. The *Kūṭa* here referred to is the top-element of the roofing, which functions in keeping the upper extremity of the rafters and in holding together the whole assemblage of the rafters that enter into the making of the roof. The *Śikhā* at the top of the rafters constitutes the basis for the *Kūṭa* and hence in its situation the bottom of the *Kūṭa* is said to turn downwards. In its shape the *Kūṭa* resembles the flower known as ‘*Dhurdhūra*’ It is made octagonal, or sixteen-faced or circular ; or, it may look like a blossomed lotus. Half of its height below is described as round. The above description of the *Kūṭa* is found in the *Manuṣyālayacandrikā*. The dimensions of the *Kūṭa* are also prescribed there. The following stanzas⁴⁵⁷ which describe the *Kūṭa* may be noted in this connection :—

455 *Ibid* , p. 79.

456. *Ibid.*, p. 80.

457. *Manuṣyālayacandrikā* (T. S. S. Ed.), Ch. VI, stanzas 9, 10, 11, 16.

“ कूटः कोटिलुपाग्रकल्पितशिखासम्प्राप्तपार्श्ववटः
 पार्श्वक्रान्तलुपाग्रन्धनिहितायः कीलसङ्कीलितः ।
 आधरोऽस्य लुपाग्रकल्पितशिखा तस्मादधो मूल ए-
 वोक्तोऽसौ विकृता लुपाश्च सकला गेहे समाब्ध्यश्रके ॥
 धुर्यूरप्रसवोपमोऽष्टनृपकोणो वा तथा वर्तुलः
 सम्फुल्लाब्जयुतोऽथवाथ गुलिकारूपः स्वमध्यादधः ।
 विस्तारद्विगुणायतस्तदुरगाद्यंशोनदीर्घोऽथवा
 कूटोऽब्ध्यादियवोत्थपत्रविलसन्मध्यप्रदेशो भवेत् ॥
 प्रायः सर्वलुपाघनोन्मितपरीणाहं करोत्तूर-
 व्यासप्रायततं तथाङ्गुलकृतैर्योन्यादिभिः संयुतम् ।
 पट्टं कोटिलुपावितानसदृशायामं लुपासङ्गम-
 स्थानं पत्रपदोर्ध्वमित्थमुदितं कूटस्वरूपादिकम् ॥
 सर्वत्रेष्टाब्ध्यश्रे तिर्यगधः कल्पितात्र रेखा या ।
 सा हि भुजायोर्ध्वाग्रा कोटिः स्यात् कोणगामिनीकर्णः ॥”

The *Silparatna* describes the Kūṭa in Chapter XXXIII, Stanzas 51 to 56.

After having described where and how the rafters are to be fixed, the author in the remaining quarters of the stanza deals with the method of determining the length of the rafters. The length of the rafters from the centre to the corner will be as much as the measure of the diagonal (*Karṇasūtra*) connecting the Kūṭa with the Uttara. The two sides consisting of the distance from the Uttara to the centre of the Prastara and from the centre of the Prastara to the summit of the Kūṭa being known, the measure of the third side which forms the hypotenuse as it were of a right-angled triangle can be easily fixed. The length of the line which connects the point in the Uttara (where the lower end of the rafter rests) with the top of the Kūṭa constitutes the length of the rafter from the Uttara to the Kūṭa. There will be as many triangles formed from the Kūṭasūtra (centre of the Grha) as there are rafters and in each case, the hypotenuse forms the length of the rafter. The whole length of the rafter does not end with the Uttara, but extends further below the Uttara. The proportion of the '*Avalambana*' or the part of the rafter which projects downwards below the uttara is next stated. Four alternatives are furnished $\frac{2}{4}$, $\frac{3}{4}$, $\frac{1}{2}$ or half of the height of the pillar. The total length of the rafter accordingly will be the length of the *Karṇasūtra*

(diagonal or hypotenuse i.e., the line which connects the point in the utara with the top of the Kūṭa) together with any one of the proportions which measure $\frac{2}{3}$, $\frac{3}{4}$, $\frac{4}{5}$ or half of the height of the pillar.

With regard to the measurement of Lupā, the following⁴⁵³ statement is found in the *Nibandhana* and *Mañjarī* which agrees with the measurement laid down in our text :—

“ मध्यादारभ्य कर्णान्तमनन्तरलुपाक्रमात् ।
स्वैः स्वैः कर्णस्थितैः सूत्रैर्लुपानां मानमादिशेत् ॥”
“ पञ्च द्विभागमथ सप्तमिदि त्रिभागं पादस्य चार्धमिति
(तत्) त्रिविधं लुपान्तम् ॥”

STANZA 49.

The Nīpraphalakā and Valayas

In this stanza the author prescribes the proportions of what are known as the Nīpraphalakā and Valayas. *Nīpraphalakā* is the plank of wood placed on the lower end of the rafters and when fixed to the rafters, it serves to fasten and hold together the different rafters. The *Vivaranakāra*⁴⁵⁹ describes it as ‘लुपासुखलगा फलका’ or the plank fixed to the face of the rafters (i.e., to the lower extremity). The breadth of the Nīpraphalakā will be one-eighth, one-sixth, or one-seventh less than that of the Utara, while its thickness will be one-third of its breadth. *Valayas* are square bands run through the hole bored in the middle of the rafters. They cut their way through the rafters and build them together. The breadth of the Valayas is stated to be two, three aṅgulas etc., according as it befits the rafter and their shape is described as square. The *Mañjarī* gives three alternatives—three aṅgulas, two aṅgulas, and one and a half aṅgulas. Any one of these which agrees most with the size of the rafter is intended to be selected. The Nīpraphalakā and Valayas are important inasmuch as they lend strength and cohesion to the rafters and bind them integrally together.

458. *Nibandhana*, XIII, *Mañjarī*, VI, quoted in the *Vimarśinī*, p. 80 (T. S. S. Edition)

459. *Tantrasamuccayavivarana* (Ms. R. No. 1994, G.O.M.L., Madras).

The following statement⁴⁶⁰ of the *Mañjarī*, which prescribes the proportions of Valayas, might be noted in this connection for purpose of comparison :—

“ स्यादङ्गुलत्रयमितं वलयं द्रव्यङ्गुलं चाध्यर्धमङ्गुलमिति
त्रिविधं लुपानाम् ॥”

STANZA 50.

Cover over the rafters and the making of Stūpikā

This stanza deals with the final stage in the construction of the Śikhara. From the trend of the text as well as from the commentator's observation we are led to suppose that the Śikhara corresponds to the roof of the shrine. We are instructed by this stanza that rafters should be covered all around with planks, prepared out of good timber such as the *Śāka* (*tectona grandis*). As regards the top it is stated that it must be covered by the last 'Avayava' of the Śikhara, viz., the *Pidhānaphalakā* or the final coping slab or plank. When the material employed in the construction of the Śikhara is stone or brick, it is called 'Mūrdheṣṭakā.' This element *Pidhānaphalakā* or *Mūrdheṣṭakā* functions in a variety of ways. First of all, it serves to close up the top of the Śikhara. In this capacity it may be described as a coping-slab or coping-stone of the Śikhara. Secondly, it functions as a support to the final element of the structure, viz., *Stūpikā*. *Stūpikā* is the finial, the topmost crowning part of the structure, especially of a religious character. It bears, according to our author, distinct proportion to the height of the temple, and, as generally laid down, its height is as much as the height of the basement. It is composed of four traditional parts—*Padma* (full-blown Lotus), *Kumbha* (Pot), *Nāla* (Lotus stalk) and *Kudmala* (Lotus-bud). These parts of the *Stūpikā*, situated one above the other, are found accepted as the four traditional parts of the *Stūpikā* which adorns the roof of shrines met with in Kerala. Havell remarks: "The water-pot or *Kalaśa*, containing a lotus-bud, placed above the *Mahāpadma* or the *āmalaka* as a finial was a most appropriate symbol of the creative element and of life itself".⁴⁶¹

460. *Prayogamañjarī* (Ms from the Adyar Mss. Library), Patala VI, quoted in the *Vimarśinī*, p 81 (T.S S. Ed) of the *Tantrasamuccaya*, Part I.

461. Havell's *Indian Architecture*, page 99.

The fixing of the Stūpikā to the accompaniment of the ceremonials connected with the act of fixing has been elaborately dealt with in texts like the *Mayamata* and *Gurudevapaddhati*. We shall quote below the relevant extracts from the said texts which indicate the ceremonial importance of the fixing of the Stūpikā.

The *Mayamata*⁴⁶² states :—

“ लुपोर्वे फलकं वोर्वे तस्याः कम्पं निधाय च ॥ ६५ ॥
 इष्टकासुधया वापि प्रच्छादनमलङ्क्यात् ।
 स्थूपिकाकलिदीर्घं चैवोक्तोत्सेधसमं मतम् ॥ ६६ ॥
 देवानां द्विजभूमीशवैश्यानां भवनेऽधुना ॥ ११६ ॥
 मूर्ध्नेष्टका विधातव्याश्चतस्रो लक्षणान्विताः ।
 सुस्निग्धाः समदग्धाश्च सुखनास्ताः सुशोभनाः ॥ ११७ ॥
 स्त्रीलिङ्गाश्चापि पुल्लिङ्गा भिन्नच्छिद्रादिवर्जिताः ।
 विस्तारायामतीत्रैस्तु प्रथमेष्टकया समाः ॥ ११८ ॥
 शिलामये शिला प्रोक्ता सर्वदोषविवर्जिता ।
 जन्माद्याशिखरान्तं च यैर्द्रव्यैश्च विनिर्मितम् ॥ ११९ ॥
 तैरेवादौ तथान्ते च न्यस्तव्याश्चेष्टकाः शुभाः ।
 मिश्रद्रव्यैश्च सङ्कीर्णै यैर्द्रव्यैरुपरि स्थितम् ॥ १२० ॥
 तैरेव मूर्ध्नि विन्यासं रहस्यमिदमीरितम् ।
 लोहजं दारुजं वापि स्थूपिकाकीलमिष्यते ॥ १२१ ॥
 विप्रस्वाध्यायघोषैश्च शङ्खभेर्यादिनिःस्वनैः ॥
 स्थापयेदिष्टकाः सम्यक् पूर्वदक्षिणतः क्रमात् ।
 शिखरार्धे विमानस्य गग्नपत्रान्तरेऽपि वा ॥ १४५ ॥
 शिखरत्रिचतुर्भागावसाने वाम्बुजादधः ।
 तदाद्यात् स्थूपिकायामात् कीलदैर्घ्यं प्रगृह्यताम् ॥ १४६ ॥
 पूर्वमेवेष्टकास्थानं निश्छिद्रं तु दृढीकृतम् ।
 तन्मध्ये नवरत्नानि विन्यसेच्च यथाक्रमम् ॥ १४७ ॥
 तदूर्ध्वे स्थूपिकाकीलं स्थापयेदचलं समम् ।

462. *Mayamata*, Ch. XVIII, sts. 65, 66, 116 to 121, 144, 145, 146, 147, 151, 194, 195 (T. S. S. Ed.).

.... ॥ १५१ ॥

स्थूपिकुम्भं सुवर्णेन ताम्रेण रजतेन वा ।

उपलेष्टक(या ?)सौधैर्वा कृ(त्वा? त्वे)ष्टं कीलवत्(सु? स्मृ)तम् ॥ १९४ ॥

सुसंस्थाप्याचलं यावत् प्रोक्षयेत् गन्धवारिणा ।

विमानादवरुद्धाथ गर्भगैहं च मण्डपम् ॥ १९५ ॥

प्रोक्षयित्वा मुखे स्थित्वा नत्वा देवं वदेदिदम् ॥”

etc.

etc.

etc.

Gurudeva⁴⁶³ deals with this topic in the sections known as ‘*Stūpi-vinyāsa*’ and ‘*Kumbhavinyāsa*’. He thus describes:—

“ विमानस्य कृतस्याग्रे स्तूपीकुम्भौ च विन्यसेत् ।

चतस्र इष्टकाः प्राग्वदधिवास्य विधानतः ॥ ५ ॥

शिखराग्रस्य मध्ये तु कृत्वा पञ्चावटानथ ।

सर्वरत्नौषधीबीजलोहधातुरसानपि ॥ ६ ॥

ततो वरसुगन्धांश्च मूलेशानास्त्रमन्त्रितान् ।

प्रदक्षिणक्रमेणैव मध्यश्चग्रे निधाय तु ॥ ७ ॥

पृथिव्यादिचतुस्तत्त्वैः सद्याद्यैर्हृदयादिभिः ।

आग्नेयादिषु कोणेषु चतस्रोऽपीष्टका न्यसेत् ॥ ८ ॥

निष्पाद्य स्तूपिकाकीलं लौहं दारवमेव वा ।

लिङ्गामं सूचिकाग्रं वा शिखराकारमेव वा ॥ ९ ॥

ऊर्ध्वभूस्तम्भदीर्घं तद् विस्तृतं पादमानतः ।

आनुपूर्व्यात् कृशं कुर्यादग्रे चाङ्गुलिविस्तृतम् ॥ १० ॥

आयामे तु त्रिधा भक्ते चतुरश्रं तु मूलतः ।

भवेच्च वृत्तो मध्यांशश्चान्त्यांशः शिखिपादवत् ॥ ११ ॥

पुण्याहवाद्यघोषाद्यैर्लग्ने कीलं तु विन्यसेत् ।

प्रागुक्ते मध्यमे गर्ते स्तूप्ययामे शरांशके ॥ १२ ॥

अंशत्रयमदृश्यं स्याद् दृश्यावूर्ध्वांशकौ यथा ।

शिलाभिरिष्टकाभिर्वा बध्नीयात् परितो दृढम् ॥ १३ ॥

463 *Īśānagurudevapaddhati*, Uttarārdha, Patala XXXIV, sts. 5-15, 20-23, 25 (T. S. S. Ed.).

एकद्वित्रिद्वययुते तेन ताभ्यां च तैरपि ।
 द्रव्यैराच्छादनं मूर्ध्नि स्तूप्यास्तु परितः स्मृतम् ॥ १४ ॥
 सुधयाथ दृढीकृत्य सवल्लीकं सलक्षणम् ।
 पद्ममष्टदलं कृत्वा स्तूपिकां भूषयेत्ततः ॥ १५ ॥
 अथ कुम्भं तु सौवर्णं राजतं शौल्बमेव वा ॥ २० ॥
 सौधं वा मार्तिकं वापि गृहीत्वा लक्षणान्वितम् ।
 सुदिनर्क्षमुहूर्तादौ स्नात्वाथ स्थपतिः सुधीः ॥ २१ ॥
 भूषितो वस्त्रहेमाद्यैः प्राङ्मुखोदङ्मुखोऽपि वा ।
 कुम्भाधारे तु विन्यस्य हेमरत्नौषधीरसान् ॥ २२ ॥
 स्तूपिकाच्छादकं कुम्भं स्तूप्याकारशिखं न्यसेत् ।
 यथा दृढं सुनिश्छिद्रं कुम्भमूलं समन्ततः ॥ २५ ॥
 सुधालोहादिबन्धेन बध्नीयाच्छलक्षणकुट्टिमम् ॥”

The text of the *Mānasāra* on this subject as presented in P. K. Ācārya's edition leaves much to be desired. The defective nature of the text and the still more defective translation of it have been exposed in the Article on Stūpi in the Journal of “*Indian Culture*.”⁴⁶⁴

ŚIKHARA AND STŪPIKĀ

Much confusion prevails in the writings of several authors due to the imperfect understanding or gross misunderstanding of the significance of the terms ‘Śikhara’ and ‘Stūpikā’. In the course of his articles⁴⁶⁵ on ‘Śikhara’ and ‘Stūpi,’ Prof. Pisharoti has attempted to point out the difficulties that confront one in going through the several writings on the subject of Indian temple architecture because of the defective character of the rendering of these technical terms ‘Śikhara’ and ‘Stūpikā.’ We shall not enter here into the details of the discussion, but shall investigate the origin and significance of these two terms. We shall try to understand them in the sense in which they were understood and employed in the original literature on the subject of temple architecture.

Śikhara. The term ‘Śikhara’ is derived from the word ‘Śikhā.’ Its derivation⁴⁶⁶ may be stated as follows :— ‘शिखास्त्यस्येति । शिखा + रः—

464 ‘Stūpi’ by K. R. Pisharoti, *Indian Culture*, Vol. III, No. 2, pp. 353-358.

465 *Annamalai University Journal* 1935, *Indian Culture*, Vol. III, No. 2.

466. Vide *Sabdakalpadruma*, under the word ‘Śikhara.’

‘हस्त’-शिखरः ।’ This is the derivation given in the *Śabdakalpādruma*. The synonym of Śikhara that is found given there is ‘शिरस्’. Amara and the author of the *Śabdaratnāvalī* take note of the synonym “Śiras.” The *Vācaspatya*⁴⁶⁷ observes : ‘शिखा अस्त्यस्य ‘चरच्’ आलोपः’. It is clear from the derivation explained in the above quoted lexicons that the term ‘Śikhara’ is derived from the word ‘Śikhā.’ Śikhā means ‘top-knot’ (शिरोमध्यस्थकेशः or the tuft of hair on the middle of the head). That which has the tuft of hair is the head and hence ‘Śikhara’ came to denote the ‘head’ The suffix ‘र’ in शिखा+र is used in the sense of ‘Matup’ which indicates ‘possession’ The synonyms ‘Śiras’ and ‘Śirsa’ are found freely and extensively employed by the architectural authorities in their writings on architecture. The authors of the “*Three Main Styles of Indian Temple Architecture*”⁴⁶⁸ have also accepted the derivational meaning ‘head.’ This portion called Śikhara or Śiras, corresponds to the roof of the structure, and is the determining feature of the style of architecture. As the features of the human face serve to distinguish one man from another, so does the shape of the Śikhara help to distinguish one style of temple from another. The final element of Śikhara is the ‘Pīdhānaphalakā,’ the coping-slab which covers or closes up the ‘Kūta,’ the part at the upper extremity of the roof in which is secured the extremity of the rafters. This Kūta, it may be remembered, corresponds to the bone of the forehead, for the term ‘Kūta’ means that (i.e., the bone of the forehead with its projection or prominence).⁴⁶⁹

Stūpikā. The origin of this term may be sought in the word ‘Stūpa!’ We do not find in the term ‘Stūpikā’ any corrupt derivation. The word ‘Stūpā’ is found used in the most ancient literary record extant, viz., the *Rgveda*. In the *Rgveda* it occurs in the following passages :—(1)⁴⁷⁰ उप स्पृष्ट दिव्यं सातु स्तूपैः (2)⁴⁷¹ अबुध्ने राजा वरुणो वनस्योर्ध्वं स्तूपं ददते.

In later Vedic literature also, as for instance in the *Vājasaneyi Samhitā*,⁴⁷² *Śatapatha Brāhmaṇa*,⁴⁷³ *Taittirīya Samhitā*,⁴⁷⁴ *Pañcavimśa*

467 Vide *Vācaspatya* under the word ‘Śikhara.’

468 *Bulletin of the Government Museum, Madras* (Gravelly and Rāmachandran), page 2.

469 Monier William’s Dictionary, Sanskrit to English.

470. *Rg Veda*, vii, 2, 1.

471. *Rg Veda*, i 24, 7.

472. *Vājasaneyi Samhitā*, ii.2; xxv.2 [Stupa=‘tuft of hair’]

473. *Ś B*, i, 3, 3, 5, iii, 5, 3, 4. [Stupa=‘tuft of hair’].

474. *Taittirīya Samhitā*, iii.3, 6, 5. [Stūpa=‘top-knot’].

*Brāhmaṇa*⁴⁷⁵ etc., the word 'Stūpa' is used to denote the tuft of hair or top-knot. Macdonell⁴⁷⁶ and Keith observe: "*Stūpa* in the Ṛgveda and later denotes the 'top-knot' of hair as designating the upper part of the head." Roth also gives this meaning with reference to the word Stūpa or stupa⁴⁷⁷— स्तूप *schopf*, says he. The word 'Stūpa' therefore as the ancient Indian literary records indicate, has to be understood in the original sense of 'top-knot' or the 'tuft of hair' and not in the sense of a Buddhist mound as far as the derivational side of the word is concerned. It was in the sense of top-knot or tuft of hair that Stūpikā was originally and derivationally understood by architectural authorities who conceived of the temple in terms of the human organism. The other synonym found employed in the same sense is the term 'Śikhā.' Gurudeva⁴⁷⁸ clearly expresses this view of the Hindu builders in the line 'शिखाशब्देन स्तूपिकोच्यते'. . The authors of the '*Three Main Styles of Indian Temple Architecture*' are right when they render the term 'Śikhā' by the expression 'upright tuft,' but they seem to go wrong when they interpret the same word in the sense of 'flame' in the same context, as such a rendering is not called forth by the context.⁴⁷⁹ The meaning 'flame' does not fit in with the interpretation of Śikhara in the sense of 'head' which they give in the sentence.

Hair on the head is a sign of beauty and it is an aesthetic necessity in that it makes the human form look perfect. It forms synthetically a part of the human figure and grows inevitably from it. It lends to the form a sense of conclusion which is not sudden, but in accord with the principles of 'punctuation' and 'inflection.' Is not a head without hair, a head which looks bald and dry looked upon as something incomplete and offensive to a keen sense of beauty? In the same way as the human figure is considered imperfect without the mark of hair on the head, is the form of a building viewed when shorn of 'Śikhā or Stūpikā,' the aesthetic element which punctuates the upper part of the structure. The presence of this crowning and adorning element is emphasised in accord with the laws of punctuation and inflection which hold good in a really fine building. Hence was Stūpikā or Śikhā held as an indispensable member of a structure by Indian builders, who include it in their six-fold classification of an Indian temple. Being the final and

475. *Pañcaviṃśa Brāhmaṇa*, xii. 4, 4.

476. *Vedic Index of Names and Subjects* (Vol. II, p. 483).

477. *Sanskrit-Wörterbuch* (Böhtlingk und Roth), VII, columns 1268 and 1269.

478. *Gurudevapaddhati*, Uttarārdha, Pat. 28 after st. 36.

479. *Three Main Styles of Indian Temple Architecture* by Gravelly and Ramachandran, Bulletin of the Government Museum, Madras, page 2.

top-most element, it can be rendered by no better corresponding expression than by the term 'finial.' Other terms, such as dome, pinnacle etc., either imperfectly bring out its significance or totally convey sense other than what the term actually stands for. Dr P. K. Ācārya renders the term by such expressions as "a dome, a cupola, a spherical roof rising like an inverted cup over a circular, square or multangular building, a pinnacle, a steeple-tower."⁴⁸⁰ In another place,⁴⁸¹ the same scholar remarks :—"Above the dome (stūpi) are built in order Śikhara, Śikhā, Śikhānta, and Śikhāmaṇi." In his Translation of the *Mānasāra*, Ācārya translates the term 'Stūpikā' as 'dome', and 'Śikhā' as 'pinnacle'.⁴⁸² None of these varied renderings can be taken to point out the significance of the term 'Stūpikā.' "The dome is an obvious type of covering for the primitive circular hut in countries where building materials are only in small units, such as bricks, and where timber is lacking."⁴⁸³ The term 'dome' is elsewhere⁴⁸⁴ described as "rounded vault forming the roof of a building or chief part of it, and having a circular, elliptical or polygonal base; a cupola." Stūpikā, being not a roof, but the top-most part of a building adorning the roof itself, cannot be said to correspond to a dome. Moreover, the term 'dome' is used only with respect to any structure of circular design, whereas Stūpikā figures in buildings of any shape, circular or square, hexagonal or octagonal. The second statement, where Ācārya speaks of Śikhara etc., being built above the 'Stūpi', conveys no meaning. In the third instance of translation, where Ācārya strives to mark a line of distinction between Stūpikā and Śikhā, no such distinction can be detected, as the term 'Śikhā' is obviously used by Sanskrit writers as a synonym of Stūpikā (शिखाशब्देन स्तूपिकोच्यते —Gurudeva). Even the term 'pinnacle' is only loosely applied to denote 'Stūpikā', because the word 'pinnacle' though employed to refer to the decorative motif serving as the upper termination of a building, is yet distinguished from the term 'finial' which is the topmost decorative element. Finial is situated above the pinnacle. The word (pinnacle) "is distinguished from finial as signifying a larger motive, sometimes of considerable complexity, whereas a finial is a single ornament, and from tower or turret by the fact that a pinnacle is always a strictly subsidiary motive. Thus a Gothic tower and spire may be decorated with pinnacles, each one of which is capped by a finial."⁴⁸⁵

480. *A Dictionary of Hindu Architecture*, p. 707.

481. *A Dictionary of Hindu Architecture*, p. 588.

482. *Vide*, Translation of lines 92, 101, 102, Ch. XVIII.

483. *Encyclopaedia Britannica*, 14th Edition, Vol. VII, p. 511

484. *A New English Dictionary*, Vol. III, p. 593 (Oxford).

485. *Encyclopaedia Britannica*, under "Pinnacle" (14th Ed.), Vol. XVII, p. 942.

From the above description it will be obvious that the terms dome, pinnacle etc., cannot, in any appropriate sense, be applied to denote the final element of structure 'Stūpikā'. Being the top-most element, it may, however, be described by the expression 'finial.' It is treated as an independent unit by Indian authorities, unit distinct and different from the parts below such as Śikhara, Gala etc. It expresses its relationship with the whole structure and consistent with its importance as a unit, it admits of parts in its turn.

In the division of the Stūpikā into parts and in its proportion with reference to the total height of the structure, there may be noticed some amount of variation, but such a variation is inevitable in the very nature of its development. Kāśyapa⁴⁸⁶ in the course of the enumeration of the several principal parts of a temple, in a variety of proportions, assigns for the Stūpikā proportions $\frac{1}{6}$, $\frac{1}{7}$, $\frac{1}{8}$, $\frac{1}{9}$, $\frac{1}{10}$, and $\frac{1}{11}$ of the total height of the temple. In actual practice too, variation is discernible in the proportion that the Stūpikā bears to the height of the building in the different parts of India. In many of the North Indian shrines finial appears with pot-shape as its pronounced feature and is called therefore 'pot-shaped finial' by some modern scholars⁴⁸⁷

Modern writers are not unanimous in their opinion in respect of the origin and function of 'Stūpi.' Jouveau Dubreuil⁴⁸⁸ thinks that Stūpis had their origin undoubtedly in the pots of baked earth, placed on wooden roofing with a view to protecting them from rain. A. H. Longhurst,⁴⁸⁹ on the other hand, believes that *Stūpi serves no useful purpose*. Whether it serves any useful purpose or not, it is considered by architectural authorities in India as *an essential element of an Indian temple*, an element that adorns the Śikhara and lends the structure an air of completeness and perfection. It is born of the law of *punctuation* which reigns supreme in the realm of art. It perfectly accords with the interpretation of Indian Temple Architecture in terms of the human organism. The terms 'Śikhā' and 'Stūpikā' which originally denote a 'top-knot' serve in their significatory capacity to lend support to such an interpretation. With regard to its shape, the artist seems to have followed originally the patterns of Padma and Kumuda. Gangoly⁴⁹⁰ suggests

486. *Kāśyapaśilpa*, (Ānandāśrama Series), Patala XXVII.

487. Vide for instance the *History of Indian and Indonesian Art*, page 115.

488. *Dravidian Architecture*, p. 32.

489. *Annual Report of the Archaeological Department, 1915-16*, Southern Circle, Madras, page 31.

490. *Indian Architecture* by Manomohan Gangoly, *Journal of the Bihar and Orissa Research Society*, Vol. XII, Pt. III, page 420.

that the shape of the vase or Kumbha was probably the result of the gradual conversion of two full-blown lotuses prompted by a sense of symmetry to repeat the base. Havell would have us believe that Kalaśa or sacrificial pot was moulded after the shape of Kumuda. "It was the jar," says he, "which contained the amṛita or elixir of immortality, the nectar of the gods; and thus its form was adapted not only to sacrificial vessels, but to the ordinary Indian domestic water-pot, the loṭa".⁴⁹¹ This view is further strengthened by the identification which the Vivaraṇakāra observes in the shape of Kumuda and Kumbha in the statement "कुमुदं कुम्भवद्भूतम्"⁴⁹². In its full-blown form Stūpikā is not a mere pot, but an architectural element composed of various parts which from bottom upwards are (1) Eight-petalled lotus or Mahāpadma, (2) Kumbha or pot, (3) Nāla or lotus stalk, and (4) Kuḍmala or lotus bud. All the constituents of a lotus plant—the stalk, the bud and the blossomed flower—are referred to here and, as regards Kumbha, it may be assumed that it is either the result of two full-blown lotuses placed one facing the other and gradually converted to one shape or an adaptation from the shape of the Kumuda, the white water-lily. In any case, the origin of the various parts which compose the Stūpikā is to be traced in the forms of the beautiful products of Nature. These forms are certainly very artistic and enchanting and in the imagination of Indian artists they are important because they are spiritual in their associations. The lotus for instance is the flower associated with the God Viṣṇu or Sūrya and with the Goddess Lakṣmī. The whole lotus plant, inclusive of all the parts, symbolises most beautifully the springing of creative life from the ocean of eternity.

STANZA 51.

The Covering of Śikhara.

In this stanza, the author refers to the materials that may be employed in the covering and protection of the roof. In places where meteorological conditions strongly prevail, the roof needs protection and hence copper sheets, bricks and such other strong materials as are capable of resisting the inclemencies of weather are prescribed for the covering of the roof. An architect must gauge the forces of Nature and so arrange the defending members of the building that they should stand firm against Nature's furious moods and protect the dwellers inside. He must make the roof in such a manner that it must resist the scorch-

491. *A Study of Indo-Aryan Civilisation*, page 60.

492. *Tantrasamuccaya Vivaraṇa*, Ms R No. 1994, G O.M.L., Madras.

ing heat of the summer sun and keep out the beating waters of a heavy rain-fall. The foundation of his building should be so deeply laid and the basement so firmly constructed that his structure must stand unmoved before any sweeping storm. While it is true that architects, here as elsewhere, offered grim resistance to the furious forces of Nature, it must not be supposed that they aimed at conquering Nature in a vein of pride or triumph. For they were ever ready to listen to Her sweeter calls. They felt delighted in the manifestations of the healing and the soothing phenomena of Nature. They gloried in the light of the rising and the setting Sun and gave to their basement mouldings, the light-catching and the shadow-throwing devices. They gloried in the beauty of creation, which is summed up in the lotus and the lily. They adopted Nature's patterns in the repertory of their architectural ornament. It must be remembered in this connection, that the Indian artist is not one who copied Nature simply and for its own sake, or for a merely ornamental purpose. For it was never in his strain to cry 'art for art's sake'. Spirituality, rooted in his soul, endowed him with a vision which is different from the ordinary angle of vision. Contemplative by nature that he is, he visioned with the mind's eye and discovered in the lotus and the lily fair symbols of a creative element and the peaceful serenity of a fundamental and spiritual existence. Thus the relationship of artist with Nature was not one of conflict between man and Nature, but of identification with the inner consciousness of a creative Nature. There was complete association of artist with Nature in all Her restorative office. Though he defended against the destructive energies of Nature with a view to self-protection through the defending members of his building, the artist in India, was on the whole moving in harmony with the rhythmic activity of Nature, and the result he achieved finally was vitally creative and emotionally responsive.

VIMĀNAŚIKHARA.

The compound expression 'Vimānaśikhara' demands some explanation in view of the fact that the two words 'Vimāna' and 'Śikhara' have been imperfectly interpreted and very loosely employed by some modern exponents of the subject of Indian architecture. The authors of the "*Three Main Styles of Indian Temple Architecture*," for instance, call a tower 'Vimāna.' "The tower itself is a Vimāna"⁴⁹³—they say. In the "*Outline of Indian Temple Architecture*," Dr. Gravelly

493. Bulletin of the Government Museum, Madras, 1934 (New Series, Gen. Sect. III, Pt. I), page 2.

observes:⁴⁹⁴ "The term *Śikhara* relates to a structure forming part of the tower (*Vimāna*) in all the three styles of temple—*Nāgara*, *Vesara* and *Drāviḍa*—recognised by the *Śilpaśāstras*." He further speaks of "Vimāna of temple"⁴⁹⁵ Charu-Chandra Das Gupta also states referring to a temple, that it originally "consisted of the *Vimāna*,⁴⁹⁶ the *Śikhara* and the *Maṇṭapa*." Banerji in the "History of Orissa" similarly refers to the 'Vimāna and Śikhara of a temple.'⁴⁹⁷ In the wake of S. K. Iyengar, Gurudas Sarkar observes:⁴⁹⁸ "the name *Vimāna* thus came to be applied to "the tower of inner shrine or sancta of the temples." Dr. Venkaṭa Ramanayya⁴⁹⁹ identifies *Vimāna* with a tower over a shrine, with 'stūpi' as he calls a tower and so on; in other words, he takes it in the sense of a part of the temple. While the term 'Vimāna' is thus interpreted by some in the sense of a part, it is understood in the sense of the whole by others. Thus Masson⁵⁰⁰ and others, the authors of "*Ancient India and Indian Civilisation*" identify *Vimāna* with the sanctuary. J. Dubreuil⁵⁰¹ says: "In the early Chola period, it is the sanctuary of the temple, which one calls the *Vimāna*, that assumes all of a sudden gigantic proportions etc." Dr. Ānanda K. Coomāraswāmy⁵⁰² applies the term 'Vimāna' to refer to 'Dravidian temples' In the view of the authors of the *Śilpaśāstras* the term 'Vimāna' denotes the whole structure from the basement to the finial. It refers to the central shrine in which is enshrined the image. It is not found used with reference to any part of the temple.

The compound 'विमानशिखरम्' is a *Ṣaṣṭitātपुरusa* and is to be split as 'विमानस्य शिखरम्' where 'Vimāna' is the whole of which 'Śikhara' is a part. Śaṅkara⁵⁰³ explains the compound expression in the phrase 'प्रासादोपरिप्रदेशम्' which means the above portion of the *Prāsāda*. Here *Vimāna* is interpreted to mean *Prāsāda*, (i.e.) the temple as a whole, inclusive of all its main parts beginning with the

494 Bulletin of the Government Museum, Madras, Vol. III, Pt. II, 1936, page 2, foot-note 4

495. *Ibid.*, page 4

496 *Journal of the Department of Letters* (Calcutta), Vol XXIX, 1937, article, page 1.

497. *History of Orissa*, II, p. 343.

498. *Rūpam*, 1922, p. 55, also, *vide* p. 42, 'Vimāna of the temple.'

499. *Origin of South Indian Temple*, pp 78, 37, 38, etc.

500. *Ancient India*, p 355.

501. *Dravidian Architecture*, p. 37

502 *Arts and Crafts of India and Ceylon*, p. 118.

503. *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed), Part I, p 81.

basement and ending with the finial. Gurudeva⁵⁰⁴ speaks of the Adhiṣṭhāna as part of the Vimāna. Thus he states :—

“ विमानानामधिष्ठानं सोपपीठं निगद्यते ।”

The definition⁵⁰⁵ of Vimāna as given by Gurudeva is significant and it runs as follows :—

“ नानामानविधानत्वाद् विमानं शास्त्रतः कृतम् ।”

In the term ‘Vimāna,’ as defined by Gurudeva, it is interesting to note the component word ‘māna’ (measure) and the preposition ‘Vi’ (varied). According to this definition Vimāna must be taken to mean the structure which admits of a variety of measures. Temple or palace is given so many wide and varied measures that it came to be classified under various measure types. Variety of measures thus became the distinguishing feature of a temple or palace. Gurudeva devotes one Paṭala to the measures of structure and he calls it ‘Nānāvīmānalaksanādhikāra’⁵⁰⁶. Whatever may be the derivation of the term ‘Vimāna,’ it deserves to be noticed that the term was consistently and uniformly applied by all Sanskrit writers with reference to the temple, the sanctum sanctorum, and it is found employed in architectural literature as a synonym of terms like ‘Prāsāda,’ ‘Bhavana,’ ‘Harma,’ etc. Thus the *Mayamata*⁵⁰⁷ states :—

“ विमानं भवनं हर्म्यं सौधं धाम निकेतनम् ।
 प्रासादं सदनं सन्न गेहमावासकं गृहम् ॥
 आलयं निलयं वासमास्पदं वस्तु वास्तुकम् ।
 क्षेत्रमायतनं वेश्म मन्दिरं धिष्ण्यकं पदम् ॥
 लयं क्षयमगारं च तथोदवसितं पुनः ।
 स्थानमित्येवमुक्ताश्च पर्यायाख्या हि पण्डितैः ॥”

The *Kāśyapaśilpa*⁵⁰⁸ thus enumerates the synonyms :—

“ प्रासादः सदनं सन्न हर्म्यं धाम निकेतनम् ॥
 मन्दिरं भवनं वासो गेहं दिव्यविमानकम् ।

504. *Īśāna Gurudevapaddhati*, Uttarārdha, Pat. XXX, st. 65 (T. S. S. Ed.).

505. *Ibid.*, Paṭala XVIII, st. 2.

506. *Ibid.*, Paṭala XXVIII, st. 2.

507. *Mayamata*, Ch. XIX, 10, 11, 12 (T. S. S. Edition).

508. *Kāśyapaśilpa* (Ānandaśrama Series), XXIII, 1, 2, 3.

आश्रयं चाऽऽस्पदं चैव आधारं च क्रमेण तु ॥
आधारप्रतिधिष्ण्यं च हर्म्यपर्यायवाचकाः ।”

The *Mānasāra*⁵⁰⁹ likewise says:—

“ विमानं सम [ल]यं हर्म्यं चालयं वा चाधिष्ण्यकम् ॥
प्रासादं भवनं क्षेत्रं मन्दिरा(रमा)यतनं तदा ।
वेश्म च गृहमावासं क्षयं धाम सनातनम् ॥
वासं गेहमागारं वा सदनं वसितं गृहम् ।
निलयं तल(लं)कोष्ठं च स्थानं पर्यायवाचकम् ॥”

The author of the *Nibandhana* refers to octagonal, circular, square and other shaped Śikhara of the Vimāna, thereby indicating that Śikhara forms a part of the Vimāna (i.e., the temple). Thus the *Nibandhana*⁵¹⁰ states:—

‘ अष्टाश्रं मण्डलमयं चतुरश्रं च शालिका ।
कुर्याच्चतुर्विधान्येवं विमानशिखराणि तु ॥’

The *Mañjarī* refers to Vimāna with one Tala in the sense of Ekatalaprāsāda. Thus it observes⁵¹¹:—

“ मूलप्रयरेकतले विमाने ।”

Instances may thus be multiplied to show that the term ‘Vimāna’ is used by architectural authorities in ancient India in the sense of not a part, but the whole structure.

THE CAR THEORY.

Dr. Coomāraswāmy presumes that the forms of temples were derived from cars of gods on the ground that in the Rāmāyana, Ayodhya is compared to a celestial car, and that it was described as full of shrines which gave it the impression of the home of the cars of Gods. The ritual of carrying of images in processional car is cited as an instance in point. Continuing he remarks: “The resemblance of the Āryāvarta Śikhara

509. *Mānasāra*, Text (P. K. Ācārya’s Edition), XIX, lines 108-112.

510. *Śaivāgamanibandhana*, Patala XIII (a Ms. from Tripunittura).

511. *Prayogamañjarī*, Patala VI (Ms. Adyar Mss. Library, Madras).

to the bamboo scaffolding of a processional car is too striking to be accidental. More than that, we actually find stone temples of great size provided with enormous stone wheels (Konārak, Vijayanagar): and the monolithic temples at Māmallapuram (7th century) are actually called *rathas*, that is cars, while the term *Vimāna*, applied to later Dravidian temples, has originally the same sense, of vehicle or moving palace. Something of the sense of life belonging to the older vehicles remains associated with the later buildings."⁵¹² The supposition that cars formed the prototypes of temples does not seem to us tenable, because it presumes that there were no permanent temples before Seasonal festivals and processions are essentially conditions of an established system of worship and they demand a permanent abode of the deity that is taken out on ceremonial occasions in processional cars. Kings, who are believed, according to the theory of Divine Right, to represent God on earth are carried in state cars or couches in procession on certain ceremonial occasions, but this does not mean that they are always so carried. They have a permanent palace which constitutes their permanent abode. In like manner the ritual of procession presupposes the existence of a permanent shrine, and cars which happen to be temporary and moving things, would have in all likelihood derived their form from the shape of a structure which is already permanent and settled. Otherwise it presents, as Havell remarks, 'a case of putting the cart before the horse.' The shape of the Śikhara or roof, as it is found described in architectural texts, admits of so many varied forms, such as the square, octagonal, hexagonal and the like, and all these could not be said to have had their origin in the circular bamboo scaffolding of a processional car. Again, there is no historical basis for the view that temples were fashioned after the cars. Havell appears to us right in holding that the Rathas of Māmallapuram and the Sūrya temples at Konārak are instances of attempts made by medieval builders to give literary imagination concrete form by placing stone wheels on the side of the Vimāna. Havell observes: "The temple car on which the sacred image was carried in procession could not have been introduced into the temple ritual before the image itself became part of it i.e. before the first centuries and after the Christian era—and all the constructive types, as well as the symbolism connected with them, if Indian temple building had been developed before that time. There is no instance of *Vimānas* being made like rathas, or cars, before the tenth century."⁵¹³

512. *Arts and Crafts of India and Ceylon*, pp 118, 119.

513. *A Study of Indo-Aryan Civilisation*, p 44.

STANZA 52.

Six main parts and their Proportion

The author, in this stanza, treats of the proportion of the various parts of a temple coming under the *Alpaprāsāda* class. Six main parts are mentioned beginning with the *Adhiṣṭhāna* and ending with the *Stūpikā* and in the matter of the enumeration of these six parts there is perfect agreement between all the authorities on Indian temple architecture. From bottom upwards the six parts are *Adhiṣṭhāna* (basement), *Pāda* (pillar), *Prastara* (entablature), *Gala* (neck), *Śikhara* (head), and *Stūpikā* (finial). With regard to their height, these parts bear fixed and relative proportion to one another. Our author, in this verse, prescribes the simplest and most commonly accepted proportions. The height of the building, which is twice its breadth, having been divided into eight parts, one part thereof will be given to the *Māsūṛaka* (basement), two parts to the *Stambha* (pillar, wall also), one part to the *Prastara* (entablature), one part to the *Gala* (neck), two parts to the *Śikhara* (head), and one part to the *Stūpikā* (finial). That there is consensus of opinion among the various authorities with regard to the proportion prescribed in our text is made clear by the references given below from allied literature.

The *Kāśyapaśilpa*⁵¹⁴ thus observes :—

“ हर्म्योच्चं वसुधा भज्य एकांशं हि तलोल्लतम् ।
 द्विभागं चरणायामं प्रस्तरस्यैकभागता ॥
 गलोच्चं त्वेकभागेन द्विभागं शिखरोदयम् ।
 एकांशं स्तूपितुङ्गं तु कल्प्यैवं शान्तिकं भवेत् ॥”

The *Gurudevapaddhati*⁵¹⁵ states :—

“ एवं चाल्पविमानानि विज्ञेयानि यथारुचि ।
 एकभौमानि वा कुर्याद् द्वितिलान्तानि शक्तिः ॥
 एतेषामात्तविस्ताराद् द्विगुणः स्यादिहोच्छ्रयः ।
 उच्छ्रये चाष्टधा भक्ते स्यादधिष्ठानमंशतः ॥
 स्तम्भोत्सेधस्तु भागाभ्यां प्रस्तरश्चैकभागिकः ।
 कण्ठश्चांशेन शिखरं द्वाभ्यां स्थूपिस्तथांशतः ॥
 एवं धामैकतलकं द्वितलं च समूहयेत् ॥”

514. *Kāśyapaśilpa*, XXVII, 14, 15 (Ānandāśrama Series).

515. *Gurudevapaddhati*, Uttarārdha, XXX, 59-62 (T. S. S. Ed.).

The *Mānasāra*⁵¹⁶ similarly states:—

“ उत्सेधे चाष्टभागे तु चैकांशेन मसूरकम् ।
 द्विभागं चाष्टत्रिकोत्तुङ्गं मञ्चमेकेन कारयेत् ॥
 कन्धरं तत्समं कुर्यात्तद्व्यं शिखरोदयम् (यः) ।
 तदर्थं स्तूपिकोत्तुङ्गं ॥”

The *Śilparatna*⁵¹⁷ refers to the present stanza in the Chapter on Śāntikādānīyama and adds other alternative proportions given in the *Kāśyapaśilpa*.

The commentator Śaṅkara calls this prescription an alternative rule. Thus he remarks:⁵¹⁸ ‘पक्षान्तरेण क्वचिदल्पप्रासादे नियममाह ... अल्प इति ’. This remark contains the suggestion that there are other alternatives. In stanza 7 the author has already laid down four alternative heights relative to the breadth of the structure but the relative proportions of parts are not stated. Here the author states the most commonly accepted rule regarding the height of the building and refers to the most commonly accepted distribution of height among the members of the structure. The denomination given to this proportion of height (Ht—2B) by Maya is ‘Sarvakāmika’. The text of *Kāśyapa*,⁵¹⁹ which deals with four more alternative proportions of the parts of the temple under the technical names Pauṣṭika, Jayada, Adbhuta and Sarvakāmika, amplifies the topic under consideration. The proportions stated in our text, here, are stated there under the variety of Prāsāda called ‘Śāntika.’ The *Śilparatna* refers to the lines of *Kāśyapa* in the Chapter styled ‘Śāntikādānīyama.’⁵²⁰ In the matter of the division of the whole height of the temple into a certain number of equal parts and the proportionate distribution of the same among the main six members of the structure, the *Mānasāra* is massive in details. It devotes a large part of the Chapter *Ekatalavidhāna*⁵²¹ towards the treatment of this subject. The proportions laid down in the present stanza of our text, according to Gurudeva, may apply to both *Ekatalavidhāna* and *Dvitalavidhāna*.

516. *Mānasāra* Text, XIX, lines 21-24 (P. K. Ācārya's Ed.).

517. *Śilparatna*, Ch. XXXVII (T. S. S. Ed.).

518. *Tantrasamuccaya* with *Vimarśinī*, Part I, p. 81 (T. S. S. Ed.).

519. *Kāśyapaśilpa* (Ānandāśrama Series), XXVII, 15-24.

520. Vide stanzas 4-12.

521. Vide lines 20-107.

STANZA 53.

Divisions of the Prastara.

In this stanza, the author describes the Prastara referred to in the previous verse. The proportions of the various mouldings that form the Prastara are stated here with reference to the height of the Prastara. The height of the Prastara will be half the height of the Stambha or equal to the height of the Adhiṣṭhāna.⁵²² The height of the Prastara is here required to be divided into either 21 or 19 equal parts. In the first case, from bottom upwards, Uttara ('Mr̥ṇmayottara' i.e. Uttara made of baked mud as Śaṅkara describes it, or 'Kalluttara' (i.e.) Uttara made of stone as the vernacular commentators would have it) will be allotted 3 parts and its Vājana 1 part, Bhūtālī (in the *Kāśyapaśilpa* described as 'Bhūtamālā') 3 parts and its Vājana 1 part; Kapota 7 parts; Ālīṅgapattī 1 part; Antarī 1 part; Prati 3 parts and its Vājana 1 part. In the latter case of the division of the Prastara into 19 parts, Kapota will be given 6 parts and Prati 2 parts and the remaining mouldings will be given the parts as described in the previous instance. From the nature of the description two sets of mouldings are considered, major and secondary. The major mouldings are mentioned once only. Thus Bhūtālī, Kapota and Prati come under the class of major mouldings. Vājana, which is found repeated, and associated with the major mouldings, eventually belongs to the secondary class. The mouldings called Ālīṅgapattīkā and Antarī also come under the secondary variety. Bhūtālī is so termed because of its conspicuous presentation in the element of its decoration of such mythological objects as the Bhūtas or goblins. These motifs of ornamentation may be included under the class of the representation of fanciful objects. The moulding called 'Kapota,' as its name suggests, takes its form from the figure of a pigeon's head. It projects like the beak of the pigeon. Rām Rāz describes it as "a crowning member of cornices, pedestals, and entablatures. When employed in the latter, it often connects utility with beauty, in as much as the beak of the bird is so placed as to serve the purpose of a spout to throw off the water falling on the cornice."⁵²³ It is included in the circular class of mouldings by Rām Rāz.⁵²⁴

522. Vide the alternative proportions laid down in verse 52.

523. *Essay on the Architecture of the Hindus* by Rāz, p. 24.

524. *Ibid.*, page 23.

The following stanzas,⁵²⁵ found stated in the *Kāśyapaśilpa*, give support to the proportions of the various parts of the Prastara dealt with in our text:—

“ अथ वक्ष्ये विशेषेण प्रस्तरस्य तु लक्षणम् ।
 स्तम्भार्धमुच्चमानं वा आतोत्सेधांशमेव वा ॥
 तदुच्चमेकविंशांशं कृत्वा गुणांशमुत्तरम् ।
 वाजनं त्वेकभागेन भूतमालोन्नता त्रिभिः ॥
 भूतमालोपरिष्ठात् तु वाजनं त्वेकभागया ।
 सप्तांशं तु कपोतोच्चमालिङ्गं त्वेकभागया ॥
 अंशेनान्तरिकां कुर्यात् प्रत्युत्सेधं गुणांशकम् ।
 वाजनं त्वेकभागेन अथवान्यप्रकारतः ॥
 तुङ्गमेकोनविंशांशं कृत्वोत्तरं त्रिभागया ।
 भागेन वाजनं कुर्यादग्न्यंशैर्वलभी भवेत् ॥
 वाजनं त्वेकभागेन कपोतोच्चं रसांशकम् ।
 अलिङ्गमानमंशेन अन्तरि तु प्रकल्पयेत् ॥
 प्रत्युत्सेधं द्विभागेन वाजनं त्वेकभागया ॥”

The *Silparatna*⁵²⁶ under the Chapter termed ‘Prastaravidhāna’, refers to this stanza of our author. He starts defining the position of the Prastara and its height, which, as stated there, is as follows:—

“ स्तम्भोत्सेधार्धमानं वा मासूरोत्सेधमात्रकम् ।
 प्रस्तरस्योच्छ्रयं कुर्यात् पादस्योर्ध्वं विशेषतः ॥”

Then follows the stanza we have considered viz.— स्तम्भार्धादि etc. Śrī-kumāra furnishes other alternative modes of division and distribution of the height of the Prastara from the standpoint of Daṇḍa measure. In the list of alternatives stated there⁵²⁷ an extract is given which, as a result of comparison with the text of Gurudeva, is found to be taken from Gurudeva’s ‘Prastarādyadhikāra’⁵²⁸ with some slight changes in the

525. *Kāśyapaśilpa*, XIX, 1-7 (Ānandāśrama Series); quoted in the *Vimarśinī* of the *Tantrasamuccaya*, Part I, pp 82-83 (T. S. S. Ed.).

526. *Silparatna*, Chapter XXX (T. S. S. Ed.).

527. *Silparatna*, Ch. XXX, sts. 19-30 (T. S. S. Ed.).

528. *Gurudevapaddhati*, Uttarārdha, XXX, sts. 83-97 (T. S. S. Ed.).

order of a few lines. The *Mānasāra*, in the chapter on 'Prastara-vidhāna',⁵²⁹ after having prescribed the different varieties of the height of the entablature relative to the measure of the basement and the pillar, devotes the greater portion of the chapter to the enumeration of the various mouldings and the proportion of each of the mouldings. On the basis of its division into parts, and distribution of these parts among the various mouldings, entablature is described under seven varieties.⁵³⁰

STANZA 54.

The Conclusion of Ekatala.

In this stanza, the author tells us that, after having concluded the subject of Ekatalaprāsāda, he proposes to speak of temples coming under Dvitalaprāsāda, etc., Jāti Prāsāda etc., and Vṛtta Prāsāda etc. Temples are classified from different standpoints such as their size, the number of floors they possess and their regular shape in design. According to their size they are broadly treated under two heads, known as Alpaprāsādas and Mahāprāsādas. In the latter class of Mahāprāsādas come the varieties Jāti, Chandas, Vikalpa and Ābhāsa. From the point of view of their number of storeys they are known as Ekatala, Dvitala etc., and on the basis of their shape and design they are classified as 'Caturaśra' (square), 'Vṛtta' (circular), 'Caturaśradīrgha' (rectangular), 'Hastiprstha' (apsidal), 'Vṛttāyata' (elliptical), 'Sadkōṇa' (hexagonal), and 'Aṣṭāśra' (octagonal). So far the author has been dealing with the construction of that type of temple which is characterised by one tala and the square shape. It is a simple structure and, compared with the rest, it is small in size and hence is called Alpaprāsāda. In design, size and proportion this class differentiates itself from other types of structures which are more elaborate and are dealt with in the section that follows. From the tenor of his statement with regard to the classes of structure, it would appear that the author is giving comparatively fuller details pertaining to the subject of Alpaprāsādas. He does not fail, however, to lay down the essential features and outline of the other classes. The emphasis that is laid is found laid on the Alpaprāsāda class, and this is in keeping with the practice of Kerala; for rarely do we there come across temples coming under the Mahāprāsāda class.

529. *Mānasāra* (P. K. Ācārya's Ed.), Text, Ch. XVI.

530. *Ibid.*, XVI, lines 21-120.

SQUARE, THE FUNDAMENTAL SHAPE.

With regard to shape, it deserves to be noticed that whether in Kerala or outside, the dominating shape is the square one. It is the fundamental shape known to man and appreciated by him since the dawn of civilisation. "The utilisation of rectangular networks must go back at least as far as primitive architectural design": thus observes George Birkhoff in a famous work called "*Aesthetic Measure*." This shape again is found prevailing in the design of all ancient remains and huts of primitive hill tribes. R. L. Mitra suggests that the earliest structures in India and outside, e.g., Egypt, Assyria and Babylon, were square or rectangular. The material remains of Mohenjo-Daro, which give evidence of the large use of brick and timber, afford proof clear enough of the large prevalence of rectangular design since the remotest period of civilisation revealed to us by ancient monumental records. Material remains coming down from the most distant times, such as the 3rd millennium B.C., thus serve to strengthen the view that rectangular shape is a primary and probably the earliest shape, though circular is not unknown, for, as Sir John Marshall tells us, wells of circular design have been unearthed from Mohenjo-Daro. If we accept the view that wood preceded stone as structural material, as some of the stone works and reliefs in stone belonging to the Buddhist times indicate, we must concede that square or rectangular form forms the original and earliest shape from which other shapes were derived or modified. From this point of view all other shapes may be described as deviations from or modifications or transformations of the fundamental square shape. Literary evidence is not wanting in support of this suggestion; for the following quotations from a work called *Sārāvalī*⁵³¹ or *Sārasaṅgraha* tend to support the view set forth. The verses run thus:—

“तुर्यश्रमेव सकलप्रकृतिस्थितं तत्
 क्षेत्रप्रमाणं विकृतान्यपराणि सप्त ॥
 तुर्यश्रं प्रथमं कुर्यात् सर्वप्रकृतितं गतम् ।
 तद्विकाराणि चान्यानि वर्तयेद्वर्तनापतुः ॥”

531. *Sārāvalī* is an unpublished work on Tantra. As in every other Āgamic treatise, a section of it is devoted to architectural subjects. In Ms. form it is in the possession of traditional Tantrics of Malabar and a copy of it is under preparation for the Cochin Maharaja's Manuscript Library at Tripunittura. The stanzas quoted above are brought to my notice by Prof. K. R. Pisharoti. My thanks are due to Prof. Pisharoti for the valuable piece of information he has furnished on the topic under observation.

These verses, interesting and instructive, throw much light on the subject of our studies in respect of the design and shape as originally conceived by the ancient architects of our land. The aesthetic merit of this square or rectangular design is discussed by Birkhoff in his "*Aesthetic Measure*", and this modern writer too expresses the same view which was set forth in the ancient text. According to Birkhoff square is the best shape, because it produces the most satisfactory impression of symmetry. Says he: "Corresponding to the degree of symmetry involved, we should expect to find the square to be the best in form, the rectangle excellent, and both superior in aesthetic quality to the symmetrical trapezoid. Such a relative rating coincides, I believe, with the facts."⁵³² In comparative appreciation of the square, he observes: "On the score of symmetry alone, the square holds higher rank."⁵³³

EKATALA, DVITALA ETC

The rendering of the Sanskrit terms 'Ekatala', 'Dvitala,' etc., by such expressions as 'One-storeyed,' 'Two-storeyed' buildings etc, as given by Ācārya, evidently subjects itself to a critical consideration. The Sanskrit word 'tala' refers merely to the lower horizontal surface of the structure. It may be called 'floor,' if by the expression 'floor' we do not imply any technical sense associated with the phrase *first floor*. In English, the expression 'floor,' however, is used almost interchangeably with 'storey,' and this usage has brought into currency, the phrase '*first floor*' meaning thereby the first storey. To differentiate the lower surface from the upper level, the lower plane or surface came to be called the *ground-floor*. When the numerative such as the '*first*' etc. is added to the expression 'floor,' it acquires the technical sense which is delimiting in its connotation, for it excludes the *ground-floor*. Enumeration begins with the level of the first storey. In Sanskrit language, however, such distinction is not found made as is made by the expressions 'Ground-floor' and 'first-floor.' As far as we know, there is no particular expression used to signify the ground-floor. The term '*tala*' conveys the idea of *ground-floor*. The numerative '*Eka*' when added to the expression '*tala*' refers only to the *ground-floor* and not storey, because, in their enumeration of the horizontal section of the building, the Indian builders start with the ground-floor. In the English style of enumeration the ground-floor is not inclusive but ex-

532 *Aesthetic Measure* by Birkhoff, page 24

533 *Ibid* , page 25

clusive. From the description of Ekatalaprāsāda, it is clear that enumeration starts from the ground-floor. In view of such an obvious difference in the method of approach adopted by Indian and Western writers towards the enumeration of the horizontal surface of the structure, the rendering of Sanskrit terms by English expressions must be accompanied by some explanatory remarks making clear in what exact sense the expressions are employed. Ācārya's interpretation⁵³⁴ of the term 'Ekatala' as One-storeyed, 'Dvitala' as Two-storeyed and so on needs to be revised.

STHĀNAKA, ĀSANA AND ŚAYANA.

The *Mānasāra*⁵³⁵ refers to a further type of classification from the point of view of the dominating or pronounced feature of measurement. Three classes of buildings are thus referred to called *Sthānaka* (standing), *Āsana* (sitting) and *Śayana* (Reclining). This classification is given with a view to keeping the structural features in harmony with the characteristics of the three classes of image known as *Sthānaka*, *Āsana* and *Śayana*. The above classification implies that the *Sthānaka* structure is fitted for housing that image which is in the standing posture, the *Āsana* for that image which is in its sitting posture and the *Śayana* for that image which is in its reclining posture. Temple architecture conceived in terms of the human organism must echo the activities of the human body and mind. Practical and structural considerations should inextricably be bound up with psychological operations. Man's mind is essentially contemplative in character and, as such, seeks to project itself in the object of meditation. The Indian artist sought to fulfil his mental aspiration by turning to the art of architecture, as the fitting means of expressing his mental attitude, which is spiritual in its substance. The image enshrined in a temple is the representation or embodiment of a state of feeling and of consciously directed thought. A temple, the abode of the deity, fulfils its higher function when its construction also suggests the mood or feeling which the image that it contains tends to represent. Those who desire to appreciate the value of Indian art of architecture and sculpture must above all divine its meaning. They should base their observations on two sets of considerations, constructive and psychologi-

534. Ācārya's Translation of the *Mānasāra*; *Essay on Indian Architecture*, p. 50.

535. Vide Ācārya's Edition of the *Mānasāra*, Text, Ch. XIX, lines 7-9.

cal, for, as we have already observed, nothing did the Indian artist seek to build or carve whose significance he could not imagine. The classification of structure into Sthānaka, Āsana and Śayana types is significant in that it is suggestive of the moods which the three classes of image serve to express in their three different postures of standing, sitting and reclining. This psychological implication or consideration, it will be noted here, is in tune with our interpretation of architecture in terms of the human being and further strengthens the *subjective* side of the viewpoint we have so far attempted to set forth.

The Nayaks of Tanjore

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EDITED WITH INTRODUCTION AND NOTES

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CHAPTER VII.

GÖVINDA DIKSHITA

Neither the rule of the Tanjore Nayaks in general, nor the reign of Raghunātha Nayaka in particular, would be complete and full without a reference being made to Gōvinda Dikshita, the illustrious Brahman minister of the kingdom. Gōvinda Dikshita was minister to both Achyutappa Nayaka and his son Raghunātha, and it was to him that these two Nayaks owed a large measure of their successful and glorious rule. The Dikshita played a very prominent part in the good administration of the country, and it may be said that his fame even eclipsed that of the Nayaks. If Raghunātha Nayaka could be compared to the great Krishnadēva Raya of Vijayanagar, Gōvinda Dikshita may well be ranked with the latter's minister, Sāluva Timma. Gōvinda Dikshita's name is still green in the memory of the people of the Chōḷadēśa and the generation that is fast disappearing, speaks of his greatness and fame as an administrator, as an erudite scholar and as an able minister besides, his high sense of justice and fairness which were all brought to bear upon his high office of minister. His meritorious services with which he enriched the people and the land as well, are held in much esteem even at the present day.

The existence of numerous villages and streets besides other memorials, named after him, stand testimony to his greatness and to the regard which the people and the rulers had for him and his personality. The villages of Gōvindapuram, Gōvindakudi, Ayyampēt and the streets known as Ayyaṅkadal street in Tanjore, Yāgasāla street in Kumbakonam and tanks such as Ayyaṅkulam, all these are monuments that go to commemorate his name. In spite of all these remembrances, it is really an irony of fate that very little should be known authentically of such a great person, who lived and played a considerable part in maintaining the prestige of the Nayak rule. In the temple of the village called Pattiswaram in the Kumbakonam Taluk, there stands 'in oriental majesty and grandeur, a statue of this great minister dressed in the state garb with the long robe and with the curious head-dress of the day.' Besides him stands in like manner the magnificent statue of his wife. And Liṅgās called Dikshitaliṅgas, are still worshipped in the temples of Kumbēswara at Kumbakonam and Paṇchanadīswara at Tiruvādi (Tiruvaiyar). Whether these Liṅgās are consecrated by the Dikshita himself or established in his name, are questions that remain

to be settled. But all the same, nothing definite is known about him and his early life, beyond the traditional accounts which though interesting, are so varied as not to admit of easy verification. Pattiswaram and Tirunāgēswarem in the Kumbakonam Taluk and Tiruppalātturai in the Pāpanasam Taluk, are held by the people as places, where he lived and spent his life. The statement that he lived at Pattiswaram and went to Tanjore daily in his palanquin to discharge his duties as minister, looks not only improbable but incredible considering the distance of the place and the importance of his high office.¹ However, the historical remains of a statue and the ruined site shown as the place where his house once stood, as well as epigraphs and the present custom of a section of the community called *Pattunālkārar* going to Pattiswaram to settle their minor differences before the shrine of Gōvinda Dikshita even now,—all these support the statement that in all probability he might have lived and spent his last days at Pattiswaram or it might have been a favourite place of residence of his.

The literary evidence of this period contains only casual references and from them a good account cannot be made of him. Even Yagñanārāyaṇa Dikshita, the son of this famous minister and the biographer of Raghunātha Nayaka, does not give a full account of his father, though he shows in many places that his father was associated with the government of the Nayaks, during the reigns of Achyutappa and Raghunātha. But as regards the minister's early life, it is not possible to derive any knowledge from his son's references. Tradition has it that Gōvinda Dikshita was a Kannada Brahman belonging to the Vasishṭa gōtra and Āśvalāyanasūtra and that he migrated to the Chōḷa Country about the middle of the 16th century. Even of this, there are two versions. One version says that Gōvinda Dikshita, a Kannada Brahman, was noted even as a young man, for his remarkable knowledge of Hindu Sāstras and Astrology. He is said to have been born of very poor parents; and so to find employment he made his way to Vijayanagara at the early age of seventeen. There, he soon became a favourite of Achyutarāya, (A.D. 1529 to A.D. 1542). Gōvinda Dikshita's first meeting with the Rāya is said to have taken place about A.D. 1532, when he went to the royal palace along with several astrologers who had been summoned by the Rāya, to cast the horoscope of a child that had just then been born to him. Achyutarāya was very much impressed by the Dikshita's deep

1 An account of Gōvinda Dikshita embodying all the traditions and stories is given in an article entitled *Gōvinda Dikshita* by Mr N K Venkatesam Pantulu, in the *Journal of the Andhra Historical Research Society*, Vol II, pp. 220-241.

knowledge of astrology, showered on him his favours and employed him in his service. When Achyutarāya gave Śevappa Nayaka, the principality of Tanjore and appointed him to be its governor, the latter is said to have taken along with him, his former master and friend, Gōvinda Dikshita.² It is even claimed that the Nayaka requested Gōvinda Dikshita to accept the governorship of the province, but the latter excused himself by saying that he, being a Brahman, should not encroach upon the right or *dharmā* of a Kshatriya, whose duty it was to wield the sceptre. And so he helped Śevappa to become the ruler and himself became his minister. It is said that he continued to be minister of the state for more than the duration of the rule of Śevappa and Achyutappa and even unto the reign of Raghunātha.³ Another version, says that he was a Kannada Brahman and was born of poor parents in Mysore, and he migrated to Vellore, where he took service under his uncle, who was the rāyasam (secretary) of the Ārni Nayaka. Later he was transferred to the Tanjore Samasthānam, when a daughter of this poligar was married to a prince of the Tanjore line. Here, in Tanjore, he rose to prominence and became the minister of state. Neither of these accounts is supported by the literary evidence nor by the epigraphic testimony, but the fact that he was a Kannada Brahman and a great scholar is beyond doubt.⁴ The rest of the tradition of his rise to power cannot withstand internal criticism; for one thing, the epigraphs prove the impossibility of Śevappa being a servant of Gōvinda Dikshita and the former's rise to prominence through him.⁵ Apart from this it is also

2. An account of this traditional story is given in Chapter II. Also *Sāhitya-ratnākara*, Introduction by Dr. T. R. Chintamani.

3. An apt parallelism may be traced between the long ministerial career of the Dikshita at Tanjore leading to the consolidation of the State and to an increase in its prestige and the remarkable services of Ariyanātha Mudaliar, the co-adjutor and Dalavāy of Visvanatha Nayak, the founder of the Madura Nayak kingdom. He was for over 50 years the "second in power" in the State. Ariyanātha was especially responsible for the organisation of the Pālayam system in the Southern Tamil country, and the poligars were specially attached to Ariyanātha and his memory. In one grant his name is associated along with that of the Nayak himself (of 1560 A.D.). Ariyanātha was the Dalavay and Pradhāni of the State; and his equestrian statue in the Pudumantapam at Madura and the thousand-pillared hall in its great temple are "substantial relics of his importance." Both Ariyanātha and Gōvinda Dikshita were roughly contemporaries and engaged in work of the same character and both were responsible for the consolidation of the two great Nayak States of the south.—[Ed.].

4. The Kannada origin of Gōvinda Dikshita is established by the fact that His Holiness Śrī Sankarāchārya of Kāmākōṭi Pīṭha in his *purvāstama* belonged to this family and he is of Kannada origin.

5. See Chapter II.

obvious from a study of the records that Gōvinda Dikshita could not have been minister to Śevappa, the first Nayaka. Gōvinda Dikshita is mentioned only once in the records of Achyutappa and Raghunātha and the earliest inscription mentioning him by name, is dated A.D. 1588.⁶ This record registers a gift made by the Nayaka for the merit of Gōvinda Dikshita. The literary evidences of *Raghunāthābhyudāyam* and the *Sāhityaratnākara* also speak of Gōvinda Dikshita only during the reign of Achyutappa and Raghunātha and not before. If Gōvinda Dikshita had any association with Śevappa, at least his son Yagñanārāyana would have made mention of it. Moreover, Gōvinda Dikshita's migration from Vellore is not also supported by internal evidence, since there is nothing to prove the marital alliance of the Tanjore Nayaks with the house of Ārni. Hence these traditional accounts are of no material help to the historian.

Mr. N. K. Venkatesam Pantulu⁷ says that Gōvinda Dikshita began his career as minister under the first Nayak Śevappa and continued in office through the reign of Achyutappa; and he also was of help to Raghunātha in the early years of his reign. He does not support the statement contained in the *Tanjore District Manual* which says that Gōvinda Dikshita also lived during the time of Vijayarāghava Nayaka, the last ruler, on the ground that this supposition was consequent on the writer of the *Manual* identifying Achyutappa Nayaka, the second ruler, with the last king, called Vijayarāghava and Achyuta Vijayarāghava in the records. He further adds that this view is incredible when between Śevappa and Vijayarāghava, there was an interval of a century and there was no possibility of his having lived for such a long time. The literary evidence also proves the impossibility of Gōvinda Dikshita having continued as minister under Vijayarāghava. The *Chaturdandi prakāśika* distinctly says that Vēṅkatēswara Dikshita, one of the sons of Gōvinda Dikshita, was Vijayarāghava's minister and so the father was evidently dead by that time. Therefore the question of Gōvinda Dikshita's early association with Śevappa alone remains to be settled. Mr. Venkatesam Pantulu says that his early association with Śevappa is established and quotes two inscriptions in support of his statement.⁸ He takes the word 'Śevappa Nāyakkarayyan' occurring in

⁶ 119 of 1930

⁷ *The Journal of the Andhra Historical Research Society*, Vol II, 1928, p 223.

⁸ *Ibid.*, p 224.

one of them⁹ to mean both Śevappa Nayaka and his minister Gōvinda Dīkshita on the ground, that the latter was called Ayyan out of respect. Ayyan, he further adds, is derived from the Sanskrit word Ārya which means 'worshipful.' This argument is not only inconclusive, but also untenable. Unfortunately, one of the epigraphs produced by him for our consideration, does not contain either the name of Śevappa or his minister; while the second inscription which was issued by Achyutappa records that he was the son of Śevappa; (*Śevappa Nāyakkarayyan Achyutappa Nāyakkarayyan Tanjāvūr tatṭārukku koduttu dharma sāsanaṁ*) and that he made a gift to the goldsmiths of Tanjore. The reference to Śevappa Nāyakkarayyan must be taken to refer to Śevappa Nayaka alone and not to mean himself and his minister. Gōvinda Dīkshita is also called in his epigraphs as Dīkshitarayyan and the Tanjore records give the rulers the appellation of Ayyan added to their names. Mr. Venkatesam Pantulu, who reads the word Śevappa Nāyakkarayyan as referring to two distinct individuals, viz., the Nayak and the Ayyan, in order to prove the association of Gōvinda Dīkshita with Śevappa, is not inclined to read and interpret in the same manner the epigraphs of Vijayarāghava Nayaka, which contain references as Vijayarāghava Nāyakkarayyan.¹⁰ In that case, it must be said that Gōvinda Dīkshita also lived during the reign of the last Nayaka Vijayarāghava; but Mr. Pantulu says that he could not have been minister to Vijayarāghava; and hence his view of Gōvinda Dīkshita's association with Śevappa from the epigraphs, remains to be proved. The argument that Gōvinda Dīkshita was not associated with Vijayarāghava, on the ground that the former could not have lived for more than a century, applies equally to the statement that he was associated with Śevappa very early. Because, Gōvinda Dīkshita's latest epigraph is dated A.D. 1634 and if he should have come to Vijayanagar in his 17th year corresponding to A.D. 1532, before the rule of the Nayaks began at Tanjore, then it would give him a very long life of more than a century, and this is also extremely impossible.¹¹ There is also no literary evidence to establish Gōvinda Dīkshita's early association with the administration of Śevappa. The *Sangīta Sudhā* alone contains a reference to prove that

9. The epigraphs referred to are, Achyutadēva Raya's inscription recording a gift of land by Tattappa Nayaka, son of Mallappa Nayaka to Toppāram Kēṭṭa Pillaiyar and 22 of 1897 dated Saka 1499 and issued by Achyutappa Nayaka in favour of goldsmiths. Mr. Venkatesam Pantulu basing his conclusion on the traditional evidence, works out the epigraphs to suit his conclusion.

10. 543 of 1918 and 709 of 1904.

11. According to tradition he came to Vijayanagar in his 17th year and his first meeting with Achyutarāya took place about A.D. 1532 when a son was born to him. Gōvinda Dīkshita had then Śevappa as his servant.

Gōvinda Dikshita was in the court of Śevappa and here, this fact is given out by Gōvinda Dikshita himself, when he praised Raghunātha and brought to his notice that even his grandfather had predicted in open court that he (Raghunātha) would become a great ruler. This appreciative reference is said to have been made by Śevappa, when Raghunātha was a tender child interested in play.¹² This statement would only prove that the Dikshita was present in Śevappa's court only from the latter part of his reign, since Raghunātha, his grandson is mentioned as having been a child then.¹³ Even Yagñanārāyana Dikshita speaks of his father's association only with Achyutappa Nayaka and his son, and not with his predecessor. From the *Sāhityaratnākara* it is known for certain that Gōvinda Dikshita was minister to Achyutappa; and the latter took his advice on all matters relating to the internal and foreign policies of the state. Gōvinda Dikshita attended the war council held by Achyutappa on the eve of the great Karnataka civil war of succession, and it was he, who helped in the coronation of Raghunātha Nayaka and the abdication of Achyutappa. Gōvinda Dikshita is said to have also crowned Raghunātha and performed his *Pattābhishēka* ceremony. He taught Raghunātha the science of politics and other śāstras and claimed him as his pupil Raghunātha Nayaka's march upon Śōlaga and other enemies was the result of Gōvinda Dikshita's wise counsel. When Raghunātha started on his expedition, he is said to have left the administration in the hands of Gōvinda Dikshita. Raghunātha Nayaka's confidence in his minister and the great regard which he had for his learning and experience in administration, are fully borne out by Yagñanārāyana Dikshita in his references in the *Sāhityaratnākara* as well as in several places in the *Raghunātha Vilāsa Nātakam*. According to the evidence contained in the latter work, it appears that when a drama was enacted in the palace theatre both Raghunātha Nayaka and Gōvinda Dikshita were seated together on the same seat. Yagñanārāyana Dikshita also speaks in glowing terms of the victories won by the Nayak and of the high reputation enjoyed by his father, Gōvinda Dikshita. These references go to show that Gōvinda Dikshita continued to live during the reign of Raghunātha, and the same internal evidence proves that he did not survive in

12 *Sangīta Sudhā*, Sl. 48.

पूर्व समेतां वयमत्रयुष्मत्पितामहं चैवमहीमहेन्द्रम् ।
आशीभिरानन्दयितुं तदग्रे त्वय्यादधानेखुरलीषु केलिम् ॥
तदामवन्तं सविलोक्यहर्षादस्मान्मुदावाचमिमामवोचत् ।
अस्माकमेतेन भवेत् प्रतिष्ठा चर्युसमर्थञ्च स एष राज्यम् ॥

13. *Sangīta Sudhā*, Sl. 49.

the time of Vijayarāghava Nayaka. Venkaṭamakhī, another son of Gōvinda Dīkshita and the author of the *Chaturdandī prakāśika*, says that he wrote the work at the instance of Vijayarāghava, when he was minister to him for some time. If Gōvinda Dīkshita continued to live then, Venkatamakhī would have mentioned him. Since the latest epigraph¹⁴ of Gōvinda Dīkshita is dated in A.D. 1634, it is certain that he lived till then. His earliest record is dated in A.D. 1588¹⁵ and so, his association with the government of the Nayaks will have to be mainly based on the evidence of the epigraphs, between A.D. 1588 and A.D. 1634. This period does not include the years which he spent in the court of Śevappa, whose death had taken place about A.D. 1580. Since Śevappa is said to have seen his grandson, Raghunātha, playing as a boy, Raghunātha's birth may be placed in or about A.D. 1575. As Gōvinda Dīkshita bears witness to Śevappa's blessing the child Raghunātha, it is probable that Gōvinda Dīkshita had then already settled at Tanjore. Since he says that he was one of those, who were assembled at the durbar hall when Śevappa expressed his high expectations of Raghunātha, it is possible to surmise that he had not then become the minister of state, but was probably employed in the palace as the royal *purōhita*.¹⁶ Hence under the present circumstances, Gōvinda Dīkshita's association with the administration of Tanjore may be broadly held to have lasted from A.D. 1575 to A.D. 1634, and in this period of nearly six decades, he was serving the Nayaks in a double capacity both as their 'Kulakūtastha purōhita' (family priest) and 'Kula mantri.'

From the foregoing account it is evident that Gōvinda Dīkshita, a Kannada Brāhman hailing from the Mysore country made his way to the court of the Tanjore Nayak during the last years of Śevappa, the first ruler; and he was well received and respectfully treated on account of his profound scholarship and deep learning. Soon the Dīkshita made his mark there and rose to be the royal *purōhita*, then to that of a tutor to the prince and lastly to the high office of minister solely by dint of merit.¹⁷ Achyutappa Nayaka's great regard for this minister is best seen in his records referring to the gifts made by him for the merit of Gōvinda Dīkshita. Raghunātha Nayaka's veneration for and gratitude to his minister were something extraordinary, since Gōvinda Dīkshita was also

14. 257 of 1927.

15. 119 of 1930.

16. The *Sāhityaratnākara* refers to Achyutappa's request made to Gōvinda Dīkshita to fix an auspicious day for the celebration of Raghunātha's coronation. *Sāhityaratnākara*, Canto X, Sl. 103. Also Canto XII, Sl. 46. Here Gōvinda Dīkshita is called Guru.

17. *Sāhityaratnākara*. Colophon.

his teacher. And in the later years of Raghunātha's reign which witnessed the revival of literary activities, Gōvinda Dīkshita must have also played a prominent part ; but of this we have no direct evidence.

Gōvinda Dīkshita was an orthodox Brahman and he is said to have performed numerous sacrifices. Tradition says that he never neglected to perform Agnihōtra (daily fire worship) and was never wanting in the strict performance of *dharma* as enjoined in the Vēdas and Śāstras. Yagnānārāyana Dīkshita speaks of his performing the *Sāgnicitya*, the *Vājapēya* and the *Sarvatōmukha* sacrifices and in the performance of the *Vājapēya* sacrifice he was assisted by the Nayaka, Raghunatha, who it is said, held the umbrella over his head. The Yāgasāla street and the Yāgamantapa at Kumbakonam are even now pointed out as marking the places, where Gōvinda Dīkshita performed these sacrifices. It is also said that he made large gifts and benefactions on the occasion of the completion of these sacrifices; and his great gifts numbering sixteen (*Ṣoḍaśa mahādānas*) and his gift of a village in the name of each tithi (15 days of a *pakṣa*) are also well known. The modern village called Eṅchanguḍi *alias* Ekādasī Agrahāram and the village called Mahādhānapuram, Muliakkudi *alias* Dīkshita Samudra and important streets called Mahadhāna streets, in the towns of Mayavaram, Tiruvidaimarudur and Tiruvaiyar besides others, are all pointed out as great gifts made to the Brahmans on such occasions. Gōvinda Dīkshita's name is even now associated with the repair and construction of the sixteen mantapas on the bunds of the Mahāmakham tank at Kumbakonam¹⁸ It is said that the Nayak, who was pleased with the Dīkshita for his charitable endowments, gifted to him a quantity of gold equal to his own weight for further repairs. Gōvinda Dīkshita is also spoken of as the builder of several Pushyaman-tapas at different places such as Tiruvaiyar, Kumbakonam, Tiruvidaimarudur, Tiruvalanjuli and Vriddhāchalam. As Achyutappa Nayaka also is mentioned by the Dīkshita as the builder of these mantapas at these places,¹⁹ it is possible that these works were carried out at the instance of Gōvinda Dīkshita. The Rāmaswāmi temples at Kumbakonam, Vijayarāghavapuram and Srirangam were erected during his time.²⁰ The temple at Pattiswaram is said to have received large gifts as well as additions made to its precincts. He is mentioned as the builder of the Āchāravāśal, and the Anantakalyāna mantapa of the Sārangaswāmi matha at Kumbakonam in A D 1631²¹ and also the Turaikkāttuvār

18 A R E , 1926-27, p 117.

19 *Saṅgīta Sudhā*

20 A R.E 1926-27

21. 270 of 1927.

mantapa in the Viḷanagar temple situated in the Mayavaram Taluk.²² Apart from these magnificent charities and public works, tradition has it that he also devoted much attention to the cause of education. The Rājā Pāṭasala at Kumbakonam traces its origin to the bounty of Gōvinda Dikshita; and several institutions for the teaching and propagation of the Hindu Śāstras and Vēdas were also maintained by him. Even though Sanskrit learning enjoyed special favour, yet the growth of and fostering of the Tamil literature and culture do not seem to have suffered at all for want of patronage either royal or otherwise. Gōvinda Dikshita himself was responsible for the translation of the *Tiruvaiyār Mahāṭmyam* into Tamil about A.D. 1605.²³

In addition to being a good administrator, Gōvinda Dikshita was also a renowned author. He is said to have written commentaries on the *Jaṃini Sūtras* and *Kaumārila Darṣana* besides the *Sangīta Sudhā*. He is called *Advaita Vidyācharya*; and Yagñanārāyaṇa Dikshita says that he was not only proficient in the Advaita Philosophy, but had a thorough knowledge of the six systems of philosophy (Shad darsanas). Vēṅkaṭēs-wara Dikshita (or Vēṅkaṭamakhi), another son of this great minister says that his father reestablished the Advaita school of Philosophy of Śrī Sankara and he was the elder contemporary of the great Advaita scholar, Appayya Dikshita. Both of them are said to have made efforts to propagate advaitism.²⁴ While Gōvinda Dikshita completed his *Kaumārila Darṣana* (a commentary on Kumārila Bhatta's *darṣana*), Appayya Dikshita wrote in comment, his *Parimala* at the former's instance. Appayya Dikshita's reference to an *Advaita Vidyācharya* in his *Siddhāntalēsa Saṅgraha*, is taken to mean Gōvinda Dikshita himself, for whom the author had a high regard.²⁵ Gōvinda Dikshita was also very proficient in the science of music and may well be called the founder of Karnāṭic music. Vēṅkaṭamakhi says that the *Sangīta Sudhā* was in reality written by his

22 164 of 1925

23 There is a passage in the *Tiruvaiyār Purāṇam* which reads :

மலிபுனல் சூழ்சோண்டு தஞ்சையிற் காத்திருமரசர்
மதியமைச்சர் னெலிமறைதேர் கோவிந்த தீட்சதராயன்
திருவாக்குடைமையாலே, கலியுகத்துச் சகராண்டு
மூவைஞ் ஞாற்றிருபதினமேல் காணுமேழாய்பொலி
வருடத்தை யேரற்றுப் புராணவடமொழி தமிழாற் புகலுற்றேன்.

24 *Gōvinda Dikshita* by Mr. N. K. Venkatesam Pantulu, *Ibid*.

25 Gōvinda Dikshita is wrongly called the author of *Harvamsa Charitam* composed of twenty-three cantos on the ground, that the author of this work is also called Gōvindamantrin. But this is not possible since the latter is said to have belonged to Sāṇḍilya gōtra whereas Gōvinda Dikshita belonged to Vasiṣṭha gōtra. (See The Tanjore Sarfoji Maharaja's Saraswathi Mahal Library Catalogue edited by Prof P. P. S. Sastry.)

Vēdic Trigonometry and also *Sangīta Sāmrājya*. But he is well known by his great work on Music, the *Chaturdandīprakāśika*. He was also the teacher of Rājachūdāmani Dīkshita, the author of *Rukmanī parinayam*³² and of Nīlakanta Dīkshita, a grand nephew of Appayya Dīkshita. One Lngādhvari, the author of *Sivasahasranāmabhāṣya* and *Vēdārtha tatva nīrnaya* is said to have been a third son of Gōvinda Dīkshita.³³ Rājachūdāmani Dīkshita in his *Tantrasīkhāmaṇi*, a work on the *Jaimini Sūtras*, says that Vēṅkatamakhi also performed several *yagñas*. Nīlakanta Dīkshita, the author of *Siva Līlārṇava* and *Gangā-vatarana Kāvya*, speaks of Vēṅkatamakhi, his master, as belonging to Vasishta gōtra and as the son of Gōvinda Dīkshita.

Gōvinda Dīkshita also appears to have been an authority in *Dharma Sāstras* and also a permanent court of arbitration. His administration of even-handed justice is recorded in an inscription coming from Pattiswaram. The epigraph is dated in the cyclic year Bhava, corresponding to A.D. 1634; and Gōvinda Dīkshita is called by the venerable name of Gōvinda Dīkshitaswāmi. The record registers a settlement made by him when the *pattunūlkārars* (Saurashtrian weavers) presented him with a petition (*Valakkumurai*) as a result of some differences arising in social matters. It appears that there was some difficulty in the order of precedence in the distribution of betel and nuts among the weavers and the merchants (*Chettis*). Gōvinda Dīkshita hearing both sides, seems to have arbitrated and settled the question amicably; but the exact terms of the settlement are not known. The agreement reached among them by making a person liable to offer a new cloth worth five fanams and 30 arecanuts and 100 betel leaves to the goddess of the local temple, if he should transgress the rules, shows clearly that the settlement was made satisfactorily to both the contending parties, who are said to have made up their minds to observe this rule by making a vow in the name of the king.³⁴ This record is also the latest so far known of him and this would show that he was living till A.D. 1634. Since Vēṅkatamakhi says that he was for some time the minister of Vijayarāghava (accession 1633) it is probable that Gōvinda Dīkshita died shortly after his accession. This is further supported by the fact that no more reference is made to Gōvinda Dīkshita in the contemporary literature. Even Yagñanārāyaṇa's name is not mentioned in the reign of Vijayarāghava Nayaka. The absence of any mention of these two

32. Vēṅkatamakhi is also said to be the author of *Jātaka Chanārika*—a treatise on Astrology. This has been translated into English by Mr. B. Suryanarayana Rao.

33. *Sāhityaratnākara*, Introduction by Dr. T. R. Chintamani.

34. 257 of 1927.

names or their whereabouts in the works of Vēṅkatamakhi and in the Telugu works of Vijayarāghava, has led some writers to think that both of them must have died about the same period³⁵ and how far this view is correct, will have to be determined by future research

Gōvinda Dikshita's association with the administration of the Nayaks, is also taken as the cause for the latter's patronage of Saivism. Since the Nayaks were all Vaishnavas by their religious persuasion, it is said that their patronage of Saivism was made possible only by the powerful influence of Gōvinda Dikshita, the great Advaita scholar of the times. Even though his influence over them cannot be undervalued, yet the statement that he was responsible for their catholicity and religious toleration remains to be well established; since the Nayaks in general do not seem to have ill-disposed towards or persecuted any of the rival faiths. Gōvinda Dikshita, though not a native of Tanjore, soon became one; and a review of his life which starting from humble and poor circumstances soon attained to the zenith of power and honour; shows the high regard and esteem which the Nayaks had for learning and scholarship. His rise to power was made easy by the royal patronage and favour and the high sense of duty, honesty, loyalty and charity which Gōvinda Dikshita had in abundance, were responsible for his ultimate success as a great administrator. These qualities made him a hero of the day and when he died, the people deified him. It is popularly believed that he spent his last days in the Mangalāmbika shrine at Kumbakonam, performing severe penance.

35 Mr. K. Sitaramayya. *The Tanjore Andhra Nayaka Charitam*, p. 252.

CHAPTER VIII.

VIJAYARĀGHAVA NAYAKA (A.D. 1633 to A.D. 1673).

I

Achyuta Vijayarāghava Nayaka¹ better known as Mannērudāsa² and as Vijayarāghava, was the son of Raghunātha Nayaka and succeeded his father on the throne. For his reign and for the subsequent period, there is available only the evidence of the native chronicles and of the Jesuit letters. With regard to the date of his accession, his epigraphs which are few and far between, remain silent, while the chronicles mention no date at all. Raghunātha Nayaka's inscriptions show, that his rule must have extended down to the year A.D. 1634 since a record of his, dated in the cyclic year Bhava corresponding to A.D. 1634 refers to a vow made by two communities at the feet of Nayakkarayyan, who was no other than Raghunātha himself.³ The same epigraph mentions Gōvinda Dikshita also and since it is known for certain, that Gōvinda Dikshita did not continue as the minister to Vijayarāghava also, the reference to Nāyakkarayyan must be taken to mean Raghunātha, and hence the latter ruled as king for about twenty years from A.D. 1614 to A.D. 1634, but his association as co-ruler with his father, dates back atleast from A.D. 1600. Considering the duration of all the individual reigns of the Tanjore Nayaks, it becomes evident that Raghunātha, the most illustrious ruler of this family had but a relatively short reign and his death will have to be placed about A.D. 1634.

It is not known for certain whether he nominated his successor in his own life time and performed the *Yauvarāgyābhishēkam*. The internal evidence contained in the *Raghunāthābhīrudayam* of Vijayarāghava⁴ says that he (Vijayarāghava) performed the sixteen great gifts (*shō-dasa mahādānas*) on a day in the year of his coronation. Chengalvala

1. 461 of 1922 from Papanasam is recorded in the name of Achyuta Vijayarāghava Nayaka. Also *Mannērudāsavilāsam*, page 2

2. Father Proenza in his letter dated 1659 says that the Nayaka called himself as the son of God Mannāru of Mannārgudi, *La Mission Du Madure*. Vol. III, p. 51.

3. 257 of 1927 from Pattiśwaram (Tanjore District). The Inscription is dated in the cyclic year Bava which corresponds to A.D. 1634.

4. *Sources of Vijayanagar History*, p. 255.

Kālakavi, the author of *Vijayarāghava Vamsāvali*⁵ and the court poet of Vijayarāghava, has recorded that these sixteen great gifts were made in the cyclic year Srīmukha and in the month of Srāvaṇa; corresponding to August-September, A.D. 1633. These two statements taken together prove that Vijayarāghava's accession must have taken place in the year 1633 and that it was celebrated sometime before the death of Raghunātha.⁶ Mr. K. Sitaramayya also agrees with this date and says that Vijayarāghava's coronation took place in A.D. 1633. This date is further supported by the evidence contained in the *Tantrasikhāmani* of Rājachūdāmani Dīkshita, a disciple of Vēṅkatamakhi a son of the illustrious Gōvinda Dīkshita. The author says that he wrote his work at the instance of his master, who is referred to have been then the minister in the court of Vijayarāghava Vēṅkatamakhi in the Introduction to his *Chaturdandīprakāśika*, mentions that he, in turn, wrote his work at the instance of his patron, Vijayarāghava Nayaka, the ruler and that too when the latter had already donated the sixteen great gifts. It is also stated therein that Vēṅkatamakhi was the establisher (consecrator) of a Chola king and this reference to his part in helping a Chola to the throne must in all probability refer to his help rendered to Vijayarāghava Nayaka himself, as there could not have been then, any possibility for any Chola to have contested the throne. Incidentally this reference shows that the work was written sometime after the coronation of Vijayarāghava and perhaps, when the author himself was occupying the high office of minister.⁷ But the date of his work, *Chaturdandīprakāśika* is not known. However, from the chronogram expressed in the *Tantrasikhāmani*, it is clear that it was written in Saka 1559⁸ corresponding to A.D. 1637 and it further goes to prove that Vijayarāghava had already become the ruler and that his coronation must have taken place sometime before A.D. 1637.⁹ Hence, the reference made to the Nayak's gifts by Vēṅkatamakhi in his own work and the date of the *Tantrasikhāmani*, settle the year of Vijayarāghava's coronation finally by saying that his accession to the throne must have been an accomplish-

5 *Vijayavilāsam*, alias *Vijayarāghava Vamsāvali* by Kālakavi, published in Cocanada by the Andhra Sāhitya Samsodha Mandal.

6 Raghunātha must have been then fifty-nine years old. The epigraphs mention him from A.D. 1600. Śevappa, according to the *Sangīta Sudhā* lived to see his grandson, Raghunātha. Śevappa's death took place in A.D. 1580.

7 There are more than one reason to believe that Vēṅkatamakhi was his minister only for a short time and that too in the early years of his reign.

8 *Tantrasikhāmani* श्रीमान्मन्ये शकस्याब्दे will give 9551.

According to the rule अष्टराणां वयसो गतिः it will yield S. 1559=A.D. 1637.

9. Also the *Tanjavur Andhra Nayaka Charitam*, p. 252.

ed fact before the year A.D. 1637, which is the date of the *Tantrasikhāmanī*. These two works, thus bear indirect evidence to the fact that Vijayarāghava's coronation took place in Srimukha (A.D. 1633) the cyclic year given in the *Vijayarāghava Vamśāvalī*. In that case Raghunātha Nayaka must have anointed Vijayarāghava, as his successor, shortly before his death.

It is sometimes held that Vijayarāghava, the illegitimate heir, usurped the throne. Vijayarāghava was the son of Raghunātha by his chief consort Kalāvati, the daughter of Vēmparāja and Lakshmamma. Vēmparāja, son of Chinna Malla, was Raghunātha Nayaka's uncle.¹⁰ The *Raghunāthābhūyudayam* of Vijayarāghava says that Vijayarāghava had a brother of the name of Rāmabhadra and that the latter is said to have accompanied Raghunātha to the Tōppūr battle field in A.D. 1617. Mr. T. S. Kuppuswami Sastri, in his *History of the Tanjore Nayaks*, says that Rājachūdāmani Dikshita in his *Ānandarāghava Nāṭakam* has made mention of two sons of Raghunātha, namely Achyuta and Rāmabhadra.¹¹ Vijayarāghava in his *Raghunāthābhūyudayam* calls Rāmabhadra as *Kumāraratnam*. Of these two, Vijayarāghava would appear to be the eldest son according to the genealogy given in the *Raghunāthābhūyudayam*.¹² But it is said in another place of the same work that Rāmabhadra alone accompanied his father Raghunātha to the field of Tōppūr battle and Vijayarāghava Nayaka, the elder son, is not at all mentioned among the participators of Tōppūr battle. But Mr. Hickey says that of the two sons, Vijayarāghava the younger "excelled his elder brother and consequently the kingdom was given over to him on account of his physical powers and mental acquirements. His elder brother was fain to be content with what he got viz the territories of Tirukāttuppalī (near Tanjore) and Paṇḍanallūr (near Kuttalam)." However, Mr. Hickey does not mention the source from where he drew this conclusion. That Raghunātha Nayaka had more than one son is also known from the

10. *Raghunāthābhūyudayam*; Sources, p. 254. Also *Mannārūdāsavilāsam* and *Ushāparinayam* by Rangājamma, the poetess. The *Ushāparinayam* says that Raghunātha had Chenchī Lakshmamma and Kalāvattamma for his consorts. Raghunātha is said to have worshipped god Kastūri Krishna for the birth of a son. The God appearing before Lakshmamma is said to have narrated to her the story of Dēvaki and Yasoḍha and that he would now be born to Kalāvati this time. This means that Vijayarāghava was born to Kalāvati.

11. In the *Bharatavākya* of the *Ānandarāghava Nāṭakam*, Rājachūdāmani Dikshita says:

सारस्यं भजता मनस्सुमनसा सारस्वते शाश्वते शश्यामाकार्मुखेखरे भवतुवः श्यामारुणि चेमुषि
जीयादच्युतराममद्रजनकः श्रीचित्रचेब्बाच्युतक्षमाशुद्ध भू रघुनाथ भूमिपतिरप्योचन्द्रमातारकम् .
quoted on p. 264 of Mr. K. Sitaramayya's work.

12. *The Maratha Principality of Tanjore*, p. 43.

evidence contained in the Jesuit letters. A Jesuit letter dated 1659¹³ says that when the Kallans (thieves) plundered the land and set free the prisoners, who were imprisoned in the Vallam fort, there were among them "two brothers of the Nayaka, whom he had shut up in prison, after pulling out their eyes to remove all possibility of succeeding him." This letter shows that Vijayarāghava had two brothers instead of one and the name of the third brother is not known. And from this it is also inferred that these brothers were leading a miserable life as they were blinded and detained as prisoners at the Vallam fort. The reference to Vijayarāghava's 'putting out their eyes to remove all desire on their side of succeeding him,' proves that Vijayarāghava's right to the throne was not above challenge by rivals; and the Jesuit letter incidentally bears witness to his accession only by foul means. Moreover, the internal evidence, even though it remains silent on this question, does not anywhere mention, that Rāmabhadra was ever killed in battle or predeceased Vijayarāghava. Mr K. Sitaramayya glibly assumes Rāmabhadra to have been an elder brother of Vijayarāghava and concludes, after a careful and critical examination of the available literary sources that Vijayarāghava got the throne through violent usurpation. He advances Vēṅkatamakhi's reference in his *Chaturdaṇḍa-prakāśika* that he established a Chōla king on the throne, as evidence to this point and to prove that Vijayarāghava got the help of Vēṅkatamakhi at the time of his coronation¹⁴. He further adds that the statements contained in the *Raghunāthābhyaṇḍam* are inconclusive and self-contradictory. For, Vijayarāghava says therein, that he wrote it even while Raghunātha was alive and the latter is said to have offered the succession to him in appreciation of his scholarship. But in the *Prastāvana* (Introduction) it is said that he told his master Tātāchārya, that he had been directed by God Mannāru to write this work and the royal preceptor on hearing this, seems to have blessed him, "called here as the king" and directed him to compose the work in *dvipada* metre. And the *Raghunāthābhyaṇḍam*¹⁵ begins like an address made by Tātāchārya to Vijayarāghava, the ruler. Besides, the same work recounts

13 Bertrand *La Mission du Madure*, Vol III, p 53

Mentioned in the *Nayaks of Madura*, on page 271-2

14 *The Tanjore Andhra Nayaka Charitam*, p 252. The reference to a Chōla ruler (Chōlaksmājane) must be taken to mean a ruler of Chōladēśa of the times and hence Vijayarāghava is referred to. Vēṅkatamakhi also calls himself as *Karnātarājyapratishṭāpanāchārya*.

15. *Sources*, pp. 256-7. Tātāchārya says that he had already obtained the blessings of God Mannāru as well as his own. Tātāchārya asked him to write the work embodying his achievements so that the whole may be offered to the deity as a garland (Tāraka Hāra)

the deeds of both Raghunātha and Vijayarāghava and Mr. Sitaramayya asks the pertinent question that if the work was written at the instance of Tātāchārya by Vijayarāghava when he had already become the ruler, how Raghunātha could have appointed him as ruler in appreciation of this work? That the work was really written long after Vijayarāghava's coronation is further established by the fact that it contains references to the help given by Vijayarāghava to the Vijayanagar Emperor, Srirangarāya III, whose accession took place in A.D. 1642. And hence the composition of this work cannot be referred strictly to the time of his accession, but only to a date approximately about a decade after the event. These observations show, that Vijayarāghava had usurped the throne with the aid of Vēnkatamakhi and Mr Sitaramayya adds further colour to the violent temper of Vijayarāghava by referring to his imprisonment of his son Mannāru, as mentioned in the *Tanjāvūri Añdhra Rājula Charitamu*.¹⁶ And the non-co-operation and the disloyalty shown by his subjects on the eve of the Muhammadan invasions upon Tanjore and Vallam about the middle of his reign, are also taken as consequences of Vijayarāghava's violence and lack of popular support. However, Raṅgājamma says that Vijayarāghava was born to Raghunātha and his chief consort (Pattampurāni) by the grace of God. She says that when Raghunātha was praying along with his wives (*Āa sathulanugudi*), Maṇṇāru, the family deity, appeared before him in a vision and blessed him with the birth of a son.¹⁷ This would show that Vijayarāghava was of legitimate birth. The mention of Raghunātha's numerous courtesans as praying along with him, might suggest the possibility that other sons might have been born to him, of whom Rāmabhadra was probably one. The poets of the court did not take the trouble to mention his other sons, as they were not born of his chief consort; and so Rāmabhadra could not have been on the direct line of succession. And hence, Raṅgājamma's account leaves no doubt regarding the legitimacy of Vijayarāghava's succession. And the reference in the *Anandarāghava Nātakam* to two sons of Raghunātha, namely, Achyuta and Rāmabhadra, is not securely established; and since it is not quite known for certain, that Achyuta Vijayarāghava was also called Achyuta Rāmabhadra, it is not possible to pursue the point further. More evidence would be required to prove that Achyuta and Rāmabhadra refer to the same person Vijayarāghava. However, the general character of the Nayaks themselves and their peaceful rule as borne out by the literary evidence, do not admit the possibility of an usurpation. And

16. *Tanjāvūri Añdhra Rājalu Charitam*.

17. *Mannārudāsa Vilāsam*.

hence, on account of all these observations, Vijayarāghava's illegitimate succession cannot be admitted until further research into the still unearthed sources should be forthcoming¹⁸

Vijayarāghava ruled for an appreciable length of time and it is said that he was an octogenarian at the time of his death.¹⁹ All are agreed that he died on the battle field. The early years of his reign immediately following the death of Raghunātha, saw the continuance of peace and tranquillity, and the loyalty of Tanjore to Vijayanagar remained unquestioned. Even though his epigraphs do not bear evidence to prove his loyalty to his suzerains the Vijayanagara Emperors, Venkatapati Raya II and Sriranga Raya III, yet it appears certain, in the absence of any contradictory evidence,²⁰ that he conducted himself as became a loyal feudatory of the empire and did not take advantage of the weak reign of Venkatapati Raya II (1630 to 1642), who was a lover of peace and who did not interfere into the affairs of his feudatories, as he was engaged in repulsing the attacks of the Muhammadan armies of Golkonda and Bijapur converging on his capital. This non-intervention of the Raya in the affairs of the southern Nayak kingdoms was taken full advantage of by the Madura Nayaka, Tirumala, who pursued a vigorous anti-imperial policy and even refused the usual tribute. Venkatapati Raya II had no time to teach Tirumala a sense of subordination; and the Kūniyur plates (1634) of Venkatapati II issued 'in accordance with the wishes of the prosperous and eminent ruler Tirumala,' show that even from the beginning of his reign, Madura displayed only a nominal allegiance and mere outward subordination to the Empire. But Vijayarāghava appears to have remained sincere and loyal towards the Raya and upheld the cause of the empire. And it

18. From the *Raghunāthābhyaṇḍayam* of Vijayarāghava and the *Vijayarāghava Vamsāvali*, it is clear that the accession of Vijayarāghava had taken place in the year *Srimukha*, i e., A D 1633, when Raghunātha Nayaka was alive. The literary evidence bears no evidence to show whether Ramabhadra Nayaka, who is said to have been a son of Raghunātha and to have accompanied his father to the Tōppūr battle, was either killed in the action or returned in safety. Even assuming that Ramabhadra did survive the war, one is not able to understand any usurpation on the part of Vijayarāghava in A D 1633 when there was Raghunātha Nayaka alive and whose death will have to be placed in the following year, on the authority of his epigraphs.

19. The *Tanjavūri Āṇḍhra Rājula Charitam* and also Taylor's Mss say that he was eighty years old at the time of his death.

20. Both the internal and foreign evidence agree on the question of Tanjore's loyalty. The *Raghunāthābhyaṇḍayam* of Vijayarāghava, contains references to his help given to the Emperor, Srirangarāya. The Jesuit letters also speak of his loyalty and co-operation with the empire.

was perhaps this loyalty of Tanjore to the empire and the emperor's countenance and support to Vijayarāghava in turn, that were responsible for the keeping of Tirumala Nayaka's ambitious and aggressive activities out of Tanjore politics in the early years of his rule and when, the latter was engaged in the fortification of the important citadels of his kingdom and bore also an indifferent attitude towards the empire.²¹

[*Note by the Editor*]

21. It is however held by Prof. R. Sathianatha Iyer that there is no definite evidence as to the objective of Tirumala, in organising the defences of his kingdom even at the very outset of his rule, though preparedness for war was essential even without any clear objective. He thus concludes — "The features of the policy of Tirumala Nayaka towards the Vijayanagara emperor developed only later on under the pressure of circumstances. His original idea was probably to humour the emperor with occasional presents without paying regular tribute. But he was not allowed to continue this ambiguous relationship for long." Dr. S. K. Aiyangar holds that Tirumala's attitude towards the emperor depended upon the conditions of the empire for the time being. The diversion of the attention of Bijapur and Golkonda during the Mughal wars with Ahmednagar in the early decades of the 17th century "synchronised with the active movement of Tirumala towards independence in the South." "The policy of the Nayaks of Madura generally cannot be regarded as having taken into calculation the actual political condition of the times. The empire was struggling for existence during the first forty years of the century being driven successively from one capital on to another. Penukonda had to be vacated . . . Chandragiri had to be similarly abandoned, and early in the reign of Sriranga III, Vellore was being laid siege to. These changes did not happen in a short campaign or two, but by persistent effort of no less than three decades. The absorption of the Chennappattana viceroyalty by Mysore enabled her to make a stand against the aggressions of Bijapur. The whole brunt of the efforts of Golkonda had to be borne by the empire practically single-handed. If Tirumala had only realised the situation and had the foresight to see the political consequences of the disintegrating movement of which he had made himself the sponsor, if not the author, he would have certainly adopted a policy of co-operation with the empire. The question of Tirumala's loyalty or disloyalty therefore depends on the question whether, in the political conditions of his time, he could have foreseen the direct results of his action. The action of his predecessors and their attitude towards the empire must necessarily have made it impossible for him to take an impartial view of the situation at the time. The interests of Mysore and the empire ran together a great way. It was the governments behind these two that were for the time saved from the attacks of the Muhammadans. It cannot but have been clear to these, chief among them Tirumala, that what befell the empire would befall them soon after. If Mysore saved herself by sustained effort, the joint efforts of the emperor and his greater feudatories should have been equally successful. That Tirumala and his friends did not adopt this course of action argues either disloyalty or want of political foresight, either of the alternatives not redounding to the credit of the great Nayak of Madura."

This long quotation shows the part that Tirumala has justly to share of the blame and responsibility for the break up of the Hindu power in the South in the 17th century.

But there is no definite evidence to help us to determine whether Tanjore paid her tribute to the empire regularly.

Vijayarāghava was not destined to enjoy a peaceful reign as his latter years were full of troubles and unsuccessful wars. He was driven by force of necessity and incompetence, to purchase peace at a very heavy price from the Muhammadans. His subsequent vacillating attitude towards Sriranga III, was largely due to his single-handed efforts to maintain his own prestige and the safety of his kingdom against great odds. He was hemmed in by the powerful Madura ruler Tirumala, on the one side and the invading Muhammadans on the other. The political circumstances of the times forced him to give up the policy of co-operation and sympathy towards the emperor. And the political conditions were such that they offered only two alternatives to Vijayarāghava, either to co-operate with the Emperor and thus work out his own ruin at the hands of the Muslims or to abandon him to save himself from immediate destruction.

The accession of Sriranga Raya III to the Vijayanagar throne in A.D. 1642²² saw the beginning of the troubles and wars, which brought about not only the decline and ruin of the empire itself, but also the fortunes of Tanjore. Sriranga, unlike his predecessor, was a talented and courageous ruler. At the time of his accession the empire was in a state of rapid decline. On the north, the Sultans of Golkonda and Bijapur began to renew their vigorous attacks on the empire, when their own safety was guaranteed by means of settlement made by the Mughal emperor in A D 1636. In the South, the viceroyalty of Madura was truculent and tending to become independent. Mysore had already established herself independent under Kanthirava Narasa and Tirumala Naya-ka of Madura began to give up even the show of a nominal allegiance to the empire. The Nayak of Gingee²³ in accordance with their family traditions, joined Tirumala and co-operated with him in his attempt to overthrow the supremacy of the empire. Tanjore alone seems to have remained traditionally loyal. It was under these discouraging political conditions, that Sriranga came to the throne and soon he had to face the

22. His accession is placed on the 29th day of October, A D. 1642; but an inscription dated A D. 1630 of his, indicates that he had been selected as Yuvarāja in that year.

23. *The English Factory Records* mention one Tubaki Krishnappa as the Nayak of Gingee.

difficulties on either side.²⁴ As he had a good training and experience in the administration of government, he reversed the peaceful policy of Venkata II and declared a policy of war against his enemies amongst whom, the opposition of Madura loomed large. For, he thought that the safety of the empire and the power to repulse the Muhammadans lay entirely in the unity and co-operation of his various feudatory rulers. With this object in view, he declared war upon Madura soon after his accession, before proceeding to stabilise his other resources. Vellore was then the Raya's residence and Sriranga Rāya also wanted to regain the lost territories of the empire from the Muhammadans. Thus it becomes evident that Madura was solely responsible for the emperor's serious intervention in the affairs of the South. As subsequent history will show, Sriranga was not destined to work out successfully his ambitious policy and soon he became an emperor without an empire and a refugee in the court of one of his feudatory Nayaks of Bednore. He was the last ruler of his line and with him the history of Vijayanagar comes to an inglorious termination.

From the time when Sriranga began his military operations in the south, the Nayak of Tanjore also had to face serious consequences. According to the evidence of a Jesuit letter,²⁵ Tirumala Nayaka of Madura, the most resourceful of them, formed an alliance with the Nayaks of Tanjore and Gingee to oppose the onward march of the Emperor by making them believe, that in the opposition of the Emperor lay the prosperity of their respective governments.²⁶ The same letter speaks of the Tanjore Nayak's betrayal of his confederates' plans against the Emperor by divulging the same to Sriranga. The Emperor, being informed of the schemes of Madura and Gingee, is said to have attacked the latter. Tirumala though disappointed by the actions of the Tanjore Nayak,

24. According to Foster's extracts the Muhammadan kings of Golkonda and Bijapur began to invade the territories of the Hindu King in A.D. 1642 immediately after the death of Venkatapati II. They are even stated to have occupied the whole country on the coast. *Archaeological Survey of India*, 1911-12, p. 193. The Jesuit letters mention the Muhammadan invasion as a result of Srirangarāya's dealings with the southern Nayaks.

25. *La Mission du Madure*, Vol. III, p. 43.

26. The Jesuit letter says that Tirumala concluded a league with Tanjore and Gingee against their sovereign. Mr. Sitaramayya says that Vijayarāghava at first joined them; but when he came to know their disloyal attitude towards Sriranga, he withdrew from the league unhesitatingly. However, the hostile attitude between Tanjore and Madura from 1610 would stand against the possibility of Tanjore entering into a league with Madura.

Vijayarāghava, did not lose courage and made a successful appeal to the Sultan of Golkonda to invade the emperor's territories and to attack Vellore in order to divert Sriranga's attention from the south. His appeal had its desired effect, since Sriranga is said to have retreated to his dominions and gained a victory over the Muhammadans. These must have happened about A.D 1643.²⁷

What happened in the south, consequent upon the emperor's withdrawal from Gingee is not known for certain. However, the political relationships and animosities of the times would show that Madura and Gingee must have been opposed to Tanjore as they could not acquiesce with the latter's betrayal. Some positive offensive must have also taken place between Tanjore and the allies and even though we have no direct evidence on this point, yet Vijayarāghava's claims in his *Raghunāthābhyudayam* that he compelled the Pāndya (Madura) and the Tuṇḍira (Gingee) chiefs to sue for peace, when they opposed Srirangarāya and that he helped the latter by making those chiefs to wait at his door, must have reference to this period. The above statement refers to Vijayarāghava's forcing the allies to come to terms and it may not be improbable if it is held, that he co-operated with Srirangarāya in his siege of Gingee and also continued it for sometime, even after the emperor's retirement to the North.²⁸

The victory gained by Srirangarāya over the Muhammadans did not in any way prove to be final and the Sultan of Golkonda, dismayed

[Note by the Editor.]

27 In 1643 and perhaps in the early part of 1644, Sriranga had succeeded in putting down the opposition of Damarla Venkatappa, who had intrigued with Golkonda and had also defeated and turned back the Golkonda forces which had advanced as far as Pulicat. He had thus contrived to establish himself firmly in power and to push back the advance of Golkonda. Sriranga's position was very strong in 1645 when he gave a charter to the English at Madras in September.

A little later, we find in the Dutch records, a reference to the defeat of Sriranga within the walls of Vellore by a Bijapur army, and forced to pay a war indemnity; though two years earlier he had secured the Bijapurian help in return for 15 lakhs of pagodas and 24 elephants. "This (change) was brought about through the intrigues of Mirjumla, who, after suffering the defeat referred to before, negotiated both with Bijapur and with Kantrava Narasa Raja Udayar of Mysore to bring about an attack on Vellore."

After this, the rebel Nayaks of the empire seemed to have come back to their proper allegiance and support of the Raya. Foster tells us that "the three rebellious Nayaks were those of Tanjore, Madura and Sinsider (Gingee ?) who inflicted a severe defeat on the royal forces in December 1645 (*The English Factories in India* (1646-50), pp 24-25) —[Ed.].

28 This seems fairly plausible since subsequent events do not support Vijayarāghava's help to Srirangarāya.

at the success of the Hindu army, made active preparations for another attack. Finding himself insecure, Sriranga again thought that a solution of the problem lay only in the hearty co-operation of his Nayak feudatories of the South. Mr Sathianatha Aiyar says that 'encouraged by their new attitude, he (the emperor) worked with them to devise plans for the expulsion of the Muhammadans from their recent conquests'²⁹ Proenza's letter says that Sriranga 'finding the chance of success but in an alliance with the three Nayaks, invited them to join him' and offered them favourable conditions which were accepted.³⁰ The same letter adds that Sriranga came to the south 'to better concert together the means of defence and attack.' But according to the same evidence even his new policy did not produce any result. Proenza says that Sriranga spent more than a year in bringing about a good understanding between the Nayaks, during which the Muhammadan armies quietly achieved the conquest of his dominions. But finally, the Nayaks whose selfish interests and jealousies were insuperable, rejected the call for co-operation with Sriranga and so the latter forsaken and abandoned, lived for sometime in the forests lying to the north of Tanjore and from where he proceeded towards the west when a Muhammadan detachment composed of cavalry from Gingee was sent further south in pursuit of the emperor.³¹ Since the Jesuit letter refers to this chase and to the subsequent siege of Gingee by the Golkonda forces, it may be taken that these events happened about A.D. 1646 which is the date of the fall of Gingee fort³² into the Muhammadan hands.

The Jesuit evidence would have us believe that Tanjore also was opposed to the emperor when it says that Sriranga invited the three Nayaks and offered them favourable terms. But from the general attitude and character of the Tanjore Nayaks, it is not possible to entertain any suspicion as regards the loyalty of Tanjore and the arrival of Srirangarāya near Tanjore on the eve of his proposed negotiations, would only confirm Vijayarāghava's more friendly attitude towards the empire. However, nothing tangible was achieved as Proenza refers to the break-

29. Sriranga III of Vijayanagar (Third Oriental Conference Report). The reference to the new attitude of the Nayaka was perhaps due to the exertions of Vijayarāghava mentioned before.

30. Bertrand III, p. 43. Sriranga's invitation to the Nayaks and his offer of favourable conditions imply that he no more stood on his technical rights as emperor regarding his relations with his feudatories.

31. Bertrand, p. 43. Sriranga's flight from Tanjore was mainly to escape from the attack of the Muhammadans.

32. Prof. C. S. Srinivasachari, 'History of Gingee,' p. 11. Also 'The Nayaks of Madura', p. 133 and Note 60.

down of the negotiations³³ Since it is not mentioned that Vijayarāghava upheld the cause of the empire but strangely enough allowed Sriranga to go to the west, the loyalty of Tanjore calls for some explanation. Proenza's letter referring to the conquest of Vellore and other territories by the Muhammadan army of Golkonda and to the retirement of Sriranga from Tanjore, speaks of the siege of Gingee by Golkonda Thus it becomes clear that Sriranga despaired of the prospects of a joint action on the part of his feudatory Nayaks, and disheartened, by the onward march of the Muhammadan forces which were sent in pursuit of him, had to leave Tanjore, leaving Vijayarāghava to his own fate Perhaps the emperor thought it insecure and also futile to remain at Tanjore and to oppose his enemies with the aid of Vijayarāghava alone Moreover, the recent success of Sivappa Nayaka of Ikkēri (Bednore) in raising the second siege of Vellore for a time and his momentary victory³⁴ would have tempted the emperor to join him, so that he could try his chance of winning success by attacking his enemies from the rear. Thus Vijayarāghava was left without any help from the empire, when he was attacked by a detachment of Muslim cavalry. The old animosities between him and Madura would not allow any possibility of entering into an alliance against the Muhammadans and it was this utter helplessness and lack of self-confidence that led him to adopt the extremely unwise but the expedient policy of purchasing peace with his enemies by 'surrendering

33 What led to the failure of this proposed union is not known Perhaps Madura's growing idea of independence and her suspicion of Tanjore were responsible, besides other factors, for the termination of the negotiations

[Additional note by the Editor]

"Tirumala Nayaka, seeking safety in his unsound policy, committed a second folly, which brought about the ruin of all these kingdoms. His ambassadors went, in his name, to treat with Idal Khan (Adil Shah) or the king of the Dakhan who sent him 17,000 horse With this imposing cavalry and 30,000 infantry of his own, he marched to Gingi. But the Muhammadans of the two armies easily came to an understanding among themselves The *subah* of Golkonda concluded a treaty with the general of Idal Khan and retired to the kingdom of Bisnagar to consolidate its conquest, while the 17,000 cavalry of Idal Khan, along with some regiments of infantry continued the siege of Gingi which they were called for to defend The 30,000 Madura infantry entered into the place, and joined the troops of the king of Gingi . . Soon disagreements and diversions sprang up among these men (the besieged) so diversified in nationality and manners. A revolt broke out, in the midst of the general confusion, the gates of the citadel were thrown open to the enemy who rushed into it, and delivered the town, the richest in all these countries, to pillage." (The Jesuit letter, quoted above)

34. Sources. *Swatatvaratnākara*.

himself at discretion.³⁵ Proenza says that the arrival of a detachment composed of cavalry in Tanjore itself 'created a panic in the citadel.'

Tirumala Nayaka stood firm by the side of the Nayak of Gingee and when the latter was besieged by the forces of Golkonda, he was able to enlist the help of Bijapur against the besiegers. He is said to have despatched an army composed of 30,000 infantry along with 17,000 cavalry supplied by Adil Shah, the Bijapur Sultan, to raise the siege of Gingee. When these two armies arrived at Gingee, the general of Golkonda seeing that it was led by the Bijapur general, the Khan-i-Khanan, who was also a faithful follower of Islam like himself, concluded an agreement with him by which the Golkonda general retired to the North, leaving the siege of Gingee in the hands of the Bijapur general. The Madura army, again disappointed, now joined the forces of Gingee and made a protracted siege possible. But a revolt among the besieged, who were composed of heterogeneous groups, soon upset all calculations of success and the Muhammadans easily captured the city. Proenza speaks of the immense booty 'consisting of silver, gold, pearls, and precious stones of inestimable value' captured by the enemies.

Encouraged by the successful siege and capture of Gingee, the Muhammadan army marched against the Nayaks of Tanjore and Madura. According to the Jesuit account, Vijayarāghava at first displayed his cowardice by hiding himself in the inaccessible forests of his kingdom, but had to come out when his territory was overrun by the enemies, who carried plunder and devastation wherever they went. Vijayarāghava had to purchase peace again at a heavy cost by meekly submitting to the will of the conqueror.³⁶ Proenza finds fault with Vijayarāghava for his submission, without the least defence and also for his short-sighted policy of not attempting to advance the cause of the empire,³⁷ even after the re-

35 Bertrand III, p. 45. Mr. Nelson says that Vijayarāghava submitted by sending an embassy to Gingee. *Vide the Madura Manual*, p. 134.

[Additional note by the Editor]

The Jesuit letter thus tells us about the doings of the Nayaks of Tanjore.—“The Golkonda army advanced on the territory of Gingi. The Nayak of Tanjore knew that he could not give pitched battle to an enemy whose mere number had created so much terror, but he could no longer count on his ally of Madura whom he had scandalously betrayed. Obligated to take sides, he. delivered himself up to the king of Golkonda and concluded with him a treaty by which he surrendered at discretion.” There is much that cannot be cleared up in the above passage regarding the conduct of the ruler of Tanjore, for which an elaborate explanation is offered here.

36. *La Mission du Madure*, Vol. III, p. 47. Also *Taylor's Catalogue Raisonné*, III, p. 40.

37. *Ibid.*

turn of the enemies. But a close study of the political movements of the times would only support the stand taken by Vijayarāghava, however bad and impolitic it was. Sriranga's leaving Tanjore helpless at a critical time, only exposed Vijayarāghava to the attacks of the Muhammadan and Madura forces. However strong and well disciplined the Tanjore forces might have been, yet, on account of her small size and slender resources and middle position, she could not offer an effective check against the torrential stream of the Muhammadan advance. Besides, his loyalty to the empire which led him to betray Madura and Gingee, now made him an irreconcilable foe to Madura and so no alliance with her was possible. Madura, with the idea of achieving independence, would not join Tanjore, which was for the continuance of the Empire. It was this utter helplessness that greatly handicapped him in his active co-operation with Sriranga Rāya. Under these circumstances, only two alternatives remained for immediate solution and Vijayarāghava had to choose between his own safety by submitting to the enemy and taking up the cause of the emperor at his own risk. In the latter course he could not think of joining Mysore which was then loyal to the emperor, because the distance and the immediate presence of Madura between these two would not be suitable for carrying on any united action. Hence it becomes apparent that Vijayarāghava's preferring his own safety was largely the outcome of political sagacity and statesmanship and cannot be called either want of sympathy or short-sightedness or disloyalty. However, his purchase of peace at a very heavy cost definitely proves that he was very much wanting in leadership and courage as well.

This event which happened about A.D. 1646 was a shadow of the coming evils and according to the Jesuit evidence, Khan-i-Khanan, the Bijapur general, invaded Tanjore immediately after his conquest of Madura³⁸ and levied a huge ransom. Proenza says that the general

38. The advance of Khan-i-Khanan upon Mysore was the result of Tirumala's invitation made to Bijapur. The causes for this second Bijapur invasion are said to have been Mysore's protection given to Sriranga and the latter's attempt to regain his territories with the aid of Mysore. Proenza says that Sriranga with an army of Mysoreans 'entered the field, reconquered a part of his provinces and repulsed the army of Golkonda which advanced to attack him'. Prof. Sathianatha Aiyar says that Madura was not all conquered but was obliged to pay subsidy for the help which Tirumala received. *Nayaks of Madura*, p. 131.

Mr. Nelson referring to the event of this period says that Raghunātha and Tambi Sētupati had annexed Pattukkōttai, Mannār Koil, Dēvakōttai, Arantangi, Tiruvarur and Tanjore. But he does not mention the source. *The Madura Manual*, p. 131.

raised large contributions and returned to Bijapur, full of plunder.³⁹ The second invasion of Bijapur upon Mysore and its ultimate success brought to an end the ambitious policy of Srirangarāya and Kanthirava Narasa (1638 to 1659) humbled and frustrated in his policy of Vijayanagar expansion, and finding his hospitality and generosity towards Sriranga were the sources of all his recent troubles, withdrew his co-operation and finally gave up the cause of the emperor. Since this is said to have happened in 1653, the second Bijapur invasion, must have taken place about the same year. Sriranga, thus abandoned for a second time, had to lead a miserable life in the jungles on the confines of his kingdom.⁴⁰ The disappearance of Sriranga from the political field marked the rapid decay of the empire. In the destruction of the empire, Tanjore lost a valuable protector and trusted friend, though from this time onwards, Vijayaraghava Nayaka ceased to be a depen-

39. Bertrand, p 48.

40. Even though there are pieces of evidence to show that he appealed to Shah-Jahan for help through Aurangzeb by offering himself to become a convert to Islam and that he also made attempts in 1657 and 1658 for the recovery of his kingdom, yet nothing intelligible is known about him after A.D. 1659. "Sriranga III of Vijayanagar" by Prof. R. Sathianatha Iyer. However epigraphs and literature refer to his remaining alive as refugee under Sivappa Nayaka of Ikkēri until A.D. 1675. See '*The Nayaks of Madura*,' p 131 Dr. S. K. Ayyangar places (p 131 note) his death about 1675. Prof. R. S. Aiyar says that the date of his death cannot be taken later than that of Shivaji's i.e. A.D. 1680

[Additional note by the Editor]

When Mir Jumla fell out of favour with his master of Golkonda, on account of the intercession of Shah Jahan on his behalf, Sriranga tried to recover his power. A Dutch letter from Batavia tells us that about January 1657, Sriranga had captured Tirupati and was planning the conquest of the neighbouring districts. These must have happened in 1656. But the Raya's cause was injured by the faithlessness and disaffection of his own officers, e.g. the defection of his general, Koneri Chetty. Early in 1658, he was defeated by Tubaki Krishnappa, who was in the service of the enemy, Mir Jumla and who was himself attacked by the Golkonda forces. In 1659 the trade of Madras was greatly injured by the continued operations of the armies of the Raya and of the Muslims in its neighbourhood.

Even in 1661 the Raya continued to enjoy some authority. But the English guns and gunners in the service of the Muslims had contributed to his defeat in many places. Dr. S. K. Ayyangar holds that 1668 A.D. definitely marks the passing of the Carnatic from the Vijayanagar rule to Muslim sway; and after this date Sriranga Raya had to shift for himself outside this region. In 1661-2, the new Madura Nayak, Chokkanatha, planned boldly to re-establish the Raya in his power, to restore Gingi to its Nayak line and to remove the evils that had resulted from the mistaken policy of Tirumala Nayaka. He contrived to defeat the Nayak of Tanjore, reduced him to submission and turned back the Bijapur generals Maula and Sagosi (Shahji) back into Gingi. Then followed an invasion of the Bijapur troops and a second invasion by the Madura forces into the Tanjore country. (See *Journal of Indian History*, Vol. XVIII, Part I, pp. 39-41.)

dent ruler. The disappearance of the empire was followed by the expansion of the Muhammadan armies of Bijapur and Golkonda farther south. Thevenot remarks that "the king of Golkonda seized those dominions of the Coast of Coromandel which lay conveniently for him and the king of Bijapur, having taken what lay next to him, pursued his conquest as far as the Cape of Negapatam," and adds that the kingdom of Bijapur is bounded on the south by the country of the Nayak of Madura, "whose territories reach to the Cape Comorin." The vassalage of Vijayarāghava Nayaka to Bijapur is proved by the observation of Thevenot:—"There are many Naiques to the south of St. Thomas who are sovereigns. The Nayaks of Madura is one. He of Tangiour (Tanjore) is at present a vassal to the king of Bijapur"⁴¹ Robert Orme says that in 1652 the Carnatic was invaded by the armies of Vizianpore (Bijapur) and Golkonda acting separately; but agreed it is supposed in the objects and division of their conquests which were accomplished in 1656.⁴²

These observations of the Jesuits and other writers show that the supremacy of Vijayanagar in the south came to an end by A.D. 1646 and by A.D. 1656 the Muhammadan supremacy was established in its stead. The kingdom of Gingee was completely annexed, that of Tanjore became a vassal and Madura paid yearly tributes. From this time onwards Vijayarāghava's foreign policy was mainly concerned with Madura, as he had adopted a policy of submission towards the Muhammadans. After Khan-i-Khanan's leaving Tanjore about A.D. 1653, Vijayarāghava was allowed to rule peacefully for a short period till A.D. 1659. During this short time, Vijayarāghava was perhaps interested in the fortification of the important places of his kingdom even though the internal and foreign evidence do not prove this conclusively.⁴³

By reading between the lines of the Jesuit letters one is led to think that Vijayarāghava by his short-sighted policy and ruinous re-

41 Travels, Pt III, Pp 91 and 105

42 Orme: *Historical Fragments*, p. 62.

43. Bertrand, III p. 50. Father Proenza says that 'the king of Tanjore instead of imitating his (Muthuvirappa Nayaka) example' i.e., in fortifying the citadel and on p. 51 he says that 'the Vallam fort by its natural position and fortifications which art had added it' was considered impregnable. The *Tanjāvūri Āndhra Rājula Charītamū* says that he was responsible for the extension of the fort of Tanjore and adds that the forts of Arantāngi, Pattukōttai, Relāthalli, Tiruppattūr were all begun and completed in one day. Another tradition says that he built the forts of Tirukkāttupalli, Vallam, Pandanallūr and Sākkōttai in addition to those mentioned in the *Āndhra Rājula Charītamū*. Since subsequent events were full of wars and there is also no reference to show that any of these forts was damaged, it may be said that Vijayarāghava utilised this short period in repairing and fortifying the vulnerable points of his kingdom.

ligious zeal and fervour, neglected his duty of protecting the people from foreign aggression. By his own neglect of duty and want of statesmanship and diplomacy, he made Tanjore a prey to his enemies. About the same time the contemporary Madura Nayaks were devoting their attention in the fortification of their strongholds. Tirumala does not seem to have entered into open hostilities with Tanjore as he was engaged in the settlement of the affairs of the Sētupatis of Ramnad and in his expedition against Mysore.⁴⁴ He died in A.D. 1659 and was succeeded by Muthu Virappa Nayaka in February of that year.⁴⁵ He differed from Tirumala in his policy towards the Muhammadans, and shortly after his accession, he added to the fortifications of Trichinopoly and placed it under the command of his general Liṅgama Nayaka, so that Trichinopoly might serve as an impregnable defence against future Muhammadan invasions. The Jesuit letter says that he even refused to pay the tribute to Bijapur. The extensive measures of defence taken by him must have had their consequence upon the neighbouring Tanjore and the Jesuit evidence records an appeal made by Vijayarāghava to Adil Shah of Bijapur in that year, instead of co-operating with the Nayak of Madura.⁴⁶ Even though there is nothing to show that Muthu Virappa was at war with Vijayarāghava, yet, the reference to the latter's appeal to Bijapur for help shows that the old family feud between these two houses continued unabated and there was also distrust and suspicion among them. What became of Vijayarāghava's appeal to Bijapur is not known, but from the subsequent events it becomes clear, that Bijapur was indifferent towards him. However, his appeal seems to have enabled the Sultan to understand that the time was best suited for carrying on a conquest of the south. Encouraged by the absence of unity among the Southern Nayaks, the Sultan despatched a large army under 'Sagosi' and 'Mula' with the object of conquering the Nayaks' dominions. The army arriving at Trichinopoly and soon finding that the fort was well fortified and warlike preparations made for her defence, moved towards the east and made a surprise attack upon Tanjore.

The fierce advance of the enemies upon Tanjore itself made Vijayarāghava to lose courage and to take shelter in some other place, without offering them battle. The Jesuit letter says again that Vijayarāghava

44. For an account of the measures of defence taken by Tirumala, see *The Nayaks of Madura*, p. 144.

45. *The Nayaks of Madura*, p. 150.

46. *The Nayaks of Madura*, p. 152. Prof. Sathianatha Aiyar says that Muttu Virappa Nayaka 'urged the Nayak of Tanjore in vain to join him.' The Jesuit letters, Bertrand III p. 269 makes no reference to this attitude.

fled to Vallam leaving Tanjore to be defended by his 'son-in-law.' The date of this attack according to the same source was 19th of March 1659. Proenza⁴⁷ says—"This town, situated in the midst of a fertile plain, was not inferior to the strong citadels of Europe. Defended by strong artillery and numerous troops, provisioned for several years, it could defy the besiegers, who had not a single cannon at their service. The commander of the fort, a son-in-law of the Nayak, boldly ascended the ramparts, and was struck by an arrow which inflicted a light wound on him; at once his bravery vanished, and he gave up the place shamelessly. The *rajas* also protested against his cowardice. These are warriors of a very noble caste and renowned for their courage. They use only the sword and the lance; they scorn the bow and the gun, and leave as they themselves say, these arms to cowards who dare not face danger closely. Their maxim is never to retreat before the enemy, to conquer or die is to them a sacred law. Faithful to this law, they threw themselves desperately amidst the conquerors and met with a glorious death, which they preferred to a dishonourable life." 'Sagosi' and 'Mula' capturing the fort without hard fighting, proceeded towards Mannārkōil (Mannārgudi), which was 'situated seven leagues east of the former' and which contained a well fortified fort. This fort was also easily taken by the Muhammadans. Encouraged by their easy success they advanced towards Vellam, 'three leagues south-east of Tanjore,' where they were informed that the Nayak had taken his shelter along with his family and hoarded treasures. The fort of Vallam situated 'on a steep rock within which ramparts are erected with incredible labour and expense' and by its natural position and fortification was an impregnable one and Vijayarāghava, it is gathered from the Jesuit accounts, seemed to have determined to defend it with all his energy. Proenza again says 'when the hour of peril was rung, he had no more faith in his courage than in the fidelity of his subjects; he sacrificed his dearest and fled to the forests of Talavarāyan,⁴⁸ his vassal. The army of Idal Khan (Adil Shah) was not even put to the trouble of attacking this third citadel. Those who defended it, frightened by the capture of the two principal towns despaired to resist an enemy so formidable. Besides, actuated only by the feeling of self-preservation, without any kind of devotion for a king who deserved so little of them, they believed that they would be safer in their impenetrable forests than behind their ramparts. As soon as night came, to cover them, they escaped one after

⁴⁷ Bertrand III, p. 270. Proenza's letter from Trichinopoly dated 1659. *The Nayaks of Madurai*, pp. 270-271.

⁴⁸ Who this vassal was that gave Vijayarāghava shelter is not easy of identification.

another, without noise and with such perfect agreement, that, at day-break, the commander found himself in a deserted town with only a few faithful followers. They themselves made up their mind to follow the fugitive; but when going off, they wished to take their share of the treasures which they abandoned to the enemy, they opened the coffers of the Nayak, took what they could carry of the most precious in gold, pearls and precious stones, and fled to the most inaccessible forests. 'Their strength was not in proportion to their greed.' When the commander himself fled in a panic, the Kallans (wild tribes) of the neighbourhood visited the fort before it was surrounded by the Muhammadan forces and took possession of the 'fabulous treasures which till then were not counted but in measuring them by the bushal.' The fort was emptied of its riches and was thus saved 'from the rapacity of the Muhammadans.' The thieves while searching for the treasures came across the prisons which they threw open and thus set free a large number of prisoners. Proenza calls this 'the happiest episode of this war' and adds that those treasures which were the fruits of the greedy kings and the labour of the poor, when removed gave to all people an honest life. By the time the Muhammadan armies arrived at Vallam the palace was left barren. 'Sagosi' and 'Mula' finding the fort empty and evacuated and bereft of all riches, is said to have put a small garrison in charge of it. Proenza writing sometime after this event (March 19, 1659) says that the Muhammadans have already been 'for several months in possession of this beautiful and fertile country' and adds that at the time of his writing it was not possible for him to say definitely whether they would remain there or go back to their country collecting the riches. In another letter dated 1662, he again says that 'Mula' and 'Sagosi' had occupied the kingdoms of Gingee and Tanjore 'since two years' and 'seemed determined to fix their dominions there.' From the same letter it is also gathered that they had to abandon their project of colonisation, when a famine broke out as a consequence of this invasion and havoc done, to human life. Proenza says that the famine was severe in all this country and was followed by the migration of the people to the neighbouring places like Madura and Satyamangalam, where the ravages were less felt. The Muhammadans themselves suffered much from this pestilence. Their exposure in the open air of dead bodies without burying them, soon developed an epidemic disease resulting in increased mortality. To this was added the disunion among the officers and generals of the army. 'Mula' reduced to this sad plight, tried negotiations with the Nayaks of Tanjore and Madura by saying that he would leave the land if they should agree to advance him the tribute of three years. Vijayaraghava Nayaka, having lost everything already and with nothing more to lose betook himself in the forests, while Madura

paid no heed as she was confident of her strength. And both of them realising the adverse circumstances under which the Muhammadan army was suffering remained quiet. 'Mula' finding that further delay would mean additional loss of men and lives, left Tanjore and laid siege to the fort of Trichinopoly, where again he found the task quite beyond his skill and resources. Bands of Kallans (robber chiefs) caused considerable havoc and further damage to the misfortunes of 'Mula,' who at last finding it very hard to continue the siege for long retired on receiving a moderate sum from the Madura ruler, Muttu Virappa Nayaka.⁴⁹ Thus, for the fourth time, we find Vijayarāghava Nayaka being attacked by the Muhammadan forces and on this occasion he seemed to have suffered much on account of his cowardice and want of popularity with his subjects. Proenza speaks of the Tanjore people, who were left unprotected by the Nayaka 'as those who had no devotion for a king who deserved so little of them.' Even the army was tired of his rule and it did not co-operate with him fully at times of danger. And Vijayarāghava could not even continue his self-made policy of submission and surrender to the enemy, as a result of these frequent invasions and hence we find him adopting a new policy of moving with his men and money from one place to another and thus avoiding the enemy. Vijayarāghava's extreme piety and devotion to God and his intense religious zeal stood by him as a great consoler and he, a philosopher king understood success or failure as only a manifestation of the Supreme Will.

However, Vijayarāghava soon after the departure of 'Mula' to Gingee, occupied Tanjore. Referring to the miserable life led by him, Proenza mentions that the robbers, the former plunderers of the Nayak's treasures in the Vallam fort, took pity on him and restored to him a part of his riches, saying that they plundered it only to preserve it safe.⁵⁰ Thus with the active aid of the Kallans, Vijayarāghava succeeded in re-establishing his authority in the land but as misfortune would have it, he was not destined to rule peacefully even for a short time.

Muttu Virappa Nayaka of Madura died shortly afterwards after a rule of about six months and he was succeeded by Chokkanatha in July 1659. His accession saw the revival of the old long-standing animosities between Tanjore and Madura and also the beginning of internal trou-

49 For an account of the expedition of 'Sagosi' (Shahji) and 'Mula' (Mustafa Khan), see 'A Great Maratha Service to South India in the Pre-Shivaji Epoch' by Rao Sahab C. S. Srinivasachari—*Sardesai Commemoration Volume*, pp. 76-77.

50. *La Mission Du Madure*, Vol. III, p. 53.

bles. As he was only sixteen at the time of his accession, he left the administration in the hands of his Pradhāni, Rāyasam and Dalavāy, who, forming a close association among themselves, were bent upon furthering their own selfish interests. The Jesuit evidence⁵¹ says that Chokkanatha declared a policy of conquest on the advice of his ministers in order to drive away the Muhammadans. With this object, Lingama Nayaka was despatched with forty thousand men to attack 'Sagosi,' who was then encamping at Gingee. Lingama is said to have received bribes from the Muhammadan general and prolonged the campaign, while in Madura, the Pradhāni and the Rāyasam were conspiring together to put an end to the life of Chokkanatha and to instal his brother on the throne. The news of this projected plot was revealed to the Nayak by a lady of his court and he lost no time in taking a bold action. The eyes of the Pradhāni were pulled out and the Rāyasam was murdered and Chokkanatha captured the power from them. Too weak to oppose Lingama Nayaka, he pretended friendship with him only to take him captive at a suitable opportunity and punish him accordingly. But Lingama, whose conscience rendered him suspicious, escaped from Trichinopoly and joined 'Sagosi.' Proclaiming hostility towards Chokkanatha, he besieged Trichinopoly with twelve thousand cavalry. According to the Jesuit evidence,⁵² Vijayarāghava held out assurances to Lingama of his help in his attack upon Madura. The beginning of the siege was favourable to the allies and Lingama thought of capturing Chokkanatha alive. The latter given to understand that the failure of his men was due to the vile and treacherous Pradhāni, soon assumed the command of his army in person and made strong efforts to repulse Lingama and 'Sagosi.' Soon victory was on the side of Madura and the enemies withdrew to Tanjore. Chokkanatha encouraged by the victory, ordered his troops to advance upon Tanjore and attack Vijayarāghava Nayaka for co-operating with 'Sagosi' and Lingama. Vijayarāghava again helpless surrendered to the enemy, while his allies fled to Gingee. Since these events are recorded in a Jesuit letter⁵³ dated A.D. 1662, the invasion of Madura upon Tanjore in order to punish Vijayarāghava for helping Lingama, must have happened between 1660

51. *La Mission du Madure*, Vol. III, p. 121; and 'The Nayaks of Madura,' p. 155. Prof. Sathianatha Aiyar says that Chokkanatha was not responsible for this policy of conquest, since the whole project was worked out by the three officers in order to create confidence in the people. And when Lingama, the Dalavāy, heard of the Nayak's activities he turned an enemy, when the Nayak wanted to deal with him severely.

52. *La Mission du Madure*, Vol. III, p. 123.

53. *La Mission du Madure*, Vol. III, p. 119. Letter of Proenza, dated 1662.

and 1661 This victory of Madura over Tanjore proved to be the first of its kind, ever since the foundation of the Tanjore Nayakship.

The Jesuit letter speaking on the troubled political conditions of this period, says that Tanjore suffered serious consequences on account of these frequent attacks. 'The people abandoned their homes and took refuge in Madura and some at San Thomé. The excessive and fatal religious zeal of Vijayarāghava made him culpably negligent of his subjects' sufferings. To all the mishaps due to the Muhammadan scourge and famine, was added the 'inhuman exploitation of the situation by the Dutch, prompted by mercenary motives.'⁵⁴ A Jesuit writer⁵⁵ says, 'shame, eternal shame to the Dutch, who cruelly speculated on the misery of the Indians. They enticed them to the coast by the bait of abundant food, then, when their number became pretty large and their strength a little recouped, they piled them up in their ships and transported them to other countries to be sold as slaves.'

The retirement of Chokkanatha from Tanjore after Vijayarāghava's abject surrender gave the land some sort of nominal peace. In this short period nothing seems to have happened in Tanjore except the preparations of Vijayarāghava to wreak vengeance upon Madura, as he could not reconcile himself with his submission to Chokkanatha. The recent invasion was so significant, as to induce him to action. But as he found that by himself he could not face Chokkanatha, he was waiting for an opportunity to display his enmity openly. Soon the longed-for opportunity came in A.D. 1663 when 'Vanamian' the able general of Bijapur came to the south on an expedition and laid siege to Trichinopoly.⁵⁶ The Jesuit evidence again tells us that 'Vanamian' was helped by Vijayarāghava of Tanjore, who is said to have been the enemy and opposed Madura 'against the fidelity of treaties.' The Bijapur general laid waste the neighbouring territories but finding that his threats and show of power as well as his several attacks were of no avail, he opened negotiations with Chokkanatha and asked for a ransom as a condition of his leaving his kingdom. The latter availed himself of this and purchased peace by paying a large contribution in money and thus saved himself for the moment from the horrors of war. But he could not

⁵⁴ *The Nayaks of Madura*, p. 157.

⁵⁵ *La Mission du Madure*, Vol III, pp. 124-5.

⁵⁶ The causes for this expedition are not known for certain. Perhaps the news of the defeat of Sagosi and Lingama at the hands of Chokkanatha, might have induced the Bijapur Sultan for further action. The co-operation of Vijayarāghava of Tanjore with 'Vanamian' and the Jesuit reference to Tanjore's betrayal also admit the probability of Tanjore seeking the help of the Sultan as against Madura.

allow Vijayarāghava unpunished for his betrayal in joining 'Vanamian' in his siege of Trichinopoly, by breaking his treaty with Chokkanatha made recently. Accordingly, the Nayak of Madura marched upon Tanjore for a second time with a large army and soon captured the fort of Vallam which 'by its position and by the rich lands which depend on it' was efficiently garrisoned. Vijayarāghava was forced to surrender and he made peace by agreeing to the timely conditions imposed by the victor. The fort of Vallam which formerly belonged to Madura, but which was transferred to Tanjore by an order of Achyutha Raya at the commencement of the rule of the Tanjore Nayaks in exchange for Trichinopoly, was now lost to Madura by Vijayarāghava as a consequence of this defeat. Chokkanatha Nayaka's annexation of the Vallam fort is confirmed by the Jesuit evidence, which speaks of his return 'after leaving a good garrison in the fortress of which he has just made the conquest.'⁵⁷ The loss of Vallam must have happened in A.D. 1663, since John Nieuhoff speaks of Vijayarāghava's recapturing it in A.D. 1664.⁵⁸ Nieuhoff says "the Nayak of Madura had been for a considerable time in war with the Nayak of Tanjore and taken many places from him: at my time the war was renewed with more vigour than ever; and the Nayak of Tanjore having gathered a great army attacked the Nayak of Madura so briskly that he took from him, in a few days, all the places he had conquered from him before. The army of the Nayak of Madura being much disheartened by the victories of their enemies, the Nayak of Madura sent to me to Koylang his chief governor desiring assistance from the Company; but as it was not our interest to engage on any side, I excused it as handsomely as I could."⁵⁹ And from this it is known that Vijayarāghava recaptured the fort of Vallam and that the latter remained under Chokkanatha only for a very short time. Mr. K. Sitaramayya says that this was the first victory won by Vijayarāghava Nayaka. As Chokkanatha Nayaka was engaged with the reorganisation of the affairs of the Sētupatis of Ramnad and also with the preparations for an attack on Mysore,⁶⁰ and as he was not able to enlist the co-operation of the

57. Proenza in his letter dated 1665 speaks of Vijayarāghava as having been 'defeated and fleeced by Sokkalinga', whom he had notoriously betrayed. *La Mission du Madure*, Vol. III, pp. 164-5. Since the letters were written at a regular interval of three years, the reference to this war will have to be placed in 1663. However the reconquest of Vallam is not mentioned by him.

58. *The Nayaks of Madura*, p. 159.

59. John Nieuhoff: *Voyages and Travels into Brasil and the East Indies*, II, 1703, p. 297.

60. For an account of these wars, see *the Nayaks of Madura*, pp. 159-162.

Dutch,⁶¹ he perhaps allowed Vijayarāghava without opposition, to re-occupy his fort. However, as subsequent events would show, he was preparing for a big offensive against Tanjore.⁶²

From A D 1664 to A D 1673 there was comparative peace and calm in the country⁶³ and the Nayaks of Madura and Tanjore were busy preparing for their mutual war. The *Tanjāvūr Andhra Rājula Chari-tamu* says that Vijayarāghava fortified the forts of Tanjore, Arantāngi, Pattukkōttai, Tirupattur and Rēlatali.⁶⁴ The enmity between Tanjore and Madura grew violent and each wanted to get rid of the other. And Madura was the only insuperable enemy of Vijayarāghava. Though his policy was one of submission towards the Muhammadans, yet he could not think of adopting the same towards Madura, as she was also a former feudatory of Vijayanagar like himself. Ever since the foundation of the Tanjore Nayakship as a dependency of Vijayanagar, the Nayaks of Madura had entertained a policy of distrust and hatred towards her. And the latter's interest in the affairs of the empire and her loyalty and the wars waged by Achyutappa Nayaka and Raghunātha Nayaka on behalf of the Vijayanagar emperors against Madura, all these were looked upon by Madura with hatred, since they were not quite in agreement with her idea of independence. The recent help given by Vijayarāghava to 'Sagosi' and 'Mula' and also to 'Vanamian' in their attacks on Trichinopoly, only added momentum to the already existing indignation of Madura. The absence of strong and powerful rulers on the Tanjore throne and the inability and helplessness on the part of the empire to take up her cause, gave Madura an opportunity to wreak vengeance upon Tanjore.

61. Nieuhoff's reference to his refusal of Chokkanatha Nayaka's request in A.D. 1664 was perhaps due to the friendly relations that existed between the Dutch at Negapatam and Vijayarāghava Nayaka. The Dutch took Negapatam from the Portuguese in A.D. 1658 and in that year the Dutch got a deed from the Nayaka (Nammikka Sāsana deed of assurance) through one Cinnanna Chetty by which their claim to Negapatam was recognised. One of the clauses of the deed required the Dutch to entertain feelings of friendship and loyalty towards Vijayarāghava. (Two Negapatam grants from Batavia by Prof. K. A. Nilakanta Sastri *Proceedings of meetings of The Indian Historical Records Commission*, Vol XIV, p 39)

62. The change of capital from Madura to Trichinopoly in A.D. 1665 and the fortifications carried out at the latter place were all undertaken with a view to attacking Tanjore. *The Nayaks of Madura*, p. 160 and *The La Mission III*, pp 181-2.

63. Andre Friere in his letter dated 1666 refers to a prospective Bijapur invasion of the South, to collect the promised contributions from the Nayaks. But it is not known what became of this intended invasion. *La Mission III*, page 203

64. *Sources of Vijayanagar History*, p 324. Dr. S K Aiyangar identifies Rēlatali with Kilānūlai on the road between Arantangi and Tirupattur. Even though there is nothing to show that the above fortifications were made in this period, yet the history of his reign shows that he must have been busy with this work only about this time.

II

(a) *The Fatal War with Madura.*

As was expected the storm broke out in A.D. 1673, when Chokkanatha ordered his troops to march upon Tanjore. Vijayarāghava put up a strong and gallant defence and died a glorious death on the field of battle. The immediate causes for this war are not clear. The chronicles say that Vijayarāghava's refusal to give his daughter in marriage to Chokkanatha and the bad treatment meted out to the Madura ambassadors, who brought the proposal for the marriage alliance were the immediate causes of this war.¹ Whether the marriage proposal was the real cause of this war is not known for certain and unfortunately Andre Freire's letter dated 1673, in which he claims to have written about this war, is not available to us. However, Mr. Nelson, in his *Madura Manual*, has accepted the account of the chronicles and finds fault with Vijayarāghava for rejecting the offer and consequently bringing about his own ruin. He says:—'one would naturally have supposed that the offer of marriage would have been gladly accepted, more especially as the two kings. . . . were Nayakkans, descended probably from common ancestors.'² Dr. S K. Aiyangar further gives credence to the account of the chronicles by referring to Raghunātha Nayaka's marriage with a Pāndyan Princess. He thus writes, 'there is also nothing improbable in Tirumala's having married the Tanjore princess, whether she was actually stabbed to death in the manner described or not. In view, therefore of these previous alliances it is extremely likely that Chokkanatha sought an alliance and the refusal to comply must both be considered solely from the point of view of political relationship between the two families.'³ He further adds that the cause for Chokkanatha's proposed alliance was his desire to gain the support of Tanjore against his own enemy Mysore.⁴ However, he concludes that the rejection of the proposal alone was not 'the sole cause of the war between the two.' Mr Sathyanatha Aiyar thinks that Chokkanatha's demand of the Tanjore

1. Taylor: *Oriental Historical Mss*, II, pp. 185 and 191-5, *Catalogue Raisonné* III, p. 177. Also the *Tanjāvūr Añdhra Rājula Charitam* Also *Sources*, p. 324.

2. *The Madura Manual*, p. 191.

3. *The Nayaks of Madura*, p. 164, Note 33.

4. If Chokkanatha was for real peace and a strong alliance, he need not have precipitated a war immediately on Tanjore. Moreover he had nothing to fear from Mysore by way of an invasion soon after the recent battle of Erode in 1670 which went against him.

princess was only an alleged reason for his intended war.⁵ But he controverts Nelson's view that 'both were Nayakkans descended probably from common ancestors', by saying that this could not have been possible since the ancestor of the Tanjore Nayaks was connected by marriage with the ruling house of Vijayanagar, while those of Madura could not boast of such royal relationship. He adds in further support of his statement, that even though there had been marital alliances between the Nayak families of Tanjore and Madura, yet 'Vijayarāghava may have thought differently of the matter.'⁶ Mr. K. Sitaramayya casts a doubt regarding the truth of this proposed marriage alliance. He says that mutual hatred and enmity between the two lines had been manifest from the year 1616 and so no marriage would have been possible in 1672 or in 1673 or even earlier,⁷ in view of their hostilities. Secondly the higher status, due to their connection with the royal house, of the Tanjore Nayaks, is pressed into service to disprove the possibility of this proposal. He even says that Tirumala Nayaka's marriage with a Tanjore princess is not supported by any reliable testimony as there is no evidence as to its having been a fact found in the Tanjore literature; he adds that Raghunātha Nayaka, who was opposed to the Madura Nayaks in general and to Muthuvirappa Nayaka I in particular, would not have consented under any circumstances to give his daughter in marriage to Tirumala. Even granting that he had made this alliance and that Tirumala murdered his Tanjorean wife, he asks pertinently, whether Raghunātha, the most powerful of all the Tanjore rulers could have kept quiet without revenging himself on his brutal son-in-law for his daughter's death. There is no evidence even in the chronicles to show that Tanjore was at war with Tirumala. And he therefore concludes that Tirumala Nayaka's marriage with Achyuta Raghunāthamma of Tanjore as recorded in the *Tanjāvūr Andhra Rājula Charitam* is not only improbable, but highly impossible. Moreover, none of the literary works of Tanjore mention the existence of a daughter of Raghunātha Nayaka and even the *Raghunāthābhyudayam* of Vijayarāghava, which contains a genealogy of the Tanjore Nayaks, does not speak of a sister of Vijayarāghava. The Jesuit evidence, which speaks of a son-in-law of Vijayarāghava in A.D. 1659, re-

5 *The Nayaks of Madura*, p. 163

6 *The Nayaks of Madura*, p. 164. He seems to accept the statement of the *Raghunāthābhyudayam* that Raghunātha married a Pāndyan princess, but rejects the marriage of Tirumala with a Tanjore princess and his murdering her on the ground that this statement of the chronicles is not confirmed by any other evidence.

7. *The Tanjore Andhra Nayaka Charitam*, pp. 321-2.

mains silent on this matter.⁸ The chronicles of Madura also make no reference either to this marriage proposal or to Tirumala Nayaka's marriage with Raghunātha Nayaka's daughter. Hence it is difficult to give any credence to this fanciful story that has gained so much currency; and so, the truth of Chokkanatha Nayaka's proposed alliance with Tanjore will have to be discountenanced, until it is supported by further evidence and even then, the refusal of Vijayarāghava could not have brought about an immediate crisis.⁹ If the statement were to be supported by future evidence, then the observation of Mr Sathianatha Aiyar that the Madura Nayak's demand of a Tanjore princess in marriage was made as a subterfuge will remain good. Until then, the question of a marriage alliance as a cause for this war, will not hold good. Hence, the necessity arises of making further enquiry on this question.

The immediate event that preceded this war was the reconquest of Vallam by Vijayarāghava about A.D. 1664.¹⁰ Nieuhoff says that the Nayak of Tanjore attacked the Nayak of Madura and took from him in a few days all that he had lost. This conquest might have encouraged Vijayarāghava to entertain hopes of recovery and revival and he perhaps refused to pay the agreed tribute to Madura.¹¹ Mr. Sathianatha

8. *La Mission*, III, p. 51. If the reference is correct, then, it means that Vijayarāghava had at least a daughter who had been married already by 1659. But the internal evidence does not mention even a daughter of Vijayarāghava, not to speak of two, as mentioned in the Jesuit letters.

9. The view that Vijayarāghava's refusal to comply with the request of Chokkantha, was due to his nobility and high birth, does not seem to be quite secure. Of course, the Tanjore Nayak, Śevappa, was related to the imperial house of Vijayanagar by his marriage with a sister of one of Achyutarāya's courtesans. That Tirumalāmba herself was not Achyutarāya's queen is stated by her in her *Varadāmbikāparinayam*. But both Nāgama Nayaka, father of Visvanātha Nayaka and Timmappa Nayaka, the father of Śevappa, were brother officers under Krishnadēvarāya and both hailed from the Tondaimandalam country. And Nāgama Nayaka became the Raya's favourite and that was the reason for his coming down to the South to settle the affairs of the Pāndya. Both of them were Nayaks and Achyutarāya showed his regard for Viswanātha Nayaka, by making a gift for his merit. Apart from this, there is nothing to show that the Tanjore Nayaks were of a higher caste status than the Nayaks of Madura. Both of them were obliged to pay tribute to Vijayanagar according to the Jesuit letters.

10. *The Nayaks of Madura*, p. 159.

11. Vijayarāghava's failure to pay the tribute and his breaking the treaty concluded with Madura are already referred to in the Jesuit letters in connection with Vijayarāghava's help given to 'Vanamian'. Chokkanatha Nayaka's terms, soon after his capture of Vallam would have also contained a reference to Tanjore's tribute.

Aiyar also says that 'it is likely that the loss of the latter's (Madura) conquest in Tanjore referred to by John Nieuhoff was the governing consideration.' And it is also held that Tanjore's part in the struggle of Chokkanatha waged against the Mysore ruler, Dēvaraja Udaiyar (1659-1672) at Erode and the disagreement between the two powers as a result of their defeat; formed the causes for this invasion by Madura. Dr. S. K. Aiyangar¹² says that Dāmarla Aiyapēndra or Aiyappa, a half-brother of Anka, the son of Chenna, and the founder of Chennapatnam exhibited his loyalty towards Sriranga III in a battle at Erode where a confederacy composed of Chokkanatha Nayaka of Madura, a general of the Tanjore Nayaka, Aiyappa and one of the officers of Bijapur, was formed to uphold the claims of the fugitive Emperor, Sriranga III. In this battle Aiyappa fell and the imperial allies were completely defeated. Mr Sathianatha Aiyar says¹³ that 'it is likely that disagreements rose between Chokkanatha and the ruler of Tanjore as a result of this defeat, which probably precipitated the former's war against the latter in 1673.' This view is untenable in the light of our knowledge of the then existing political relationships between these two houses; and Vijayarāghava's sending his general, to participate in the battle of Erode, in which Madura, his enemy, played a prominent part, will have to be supported by further evidence. And hence a clear analysis of all the sources and other statements can only support the view, that the reconquest of Vijayarāghava Nayaka of his lost territories and the old animosities between Madura and Tanjore, constituted the main causes for a war in A.D. 1673.

Chokkanatha despatched a large army under the command of his Dalavāy Venkatakrishnappa Nayaka with Pēishkār (Revenue Officer or treasurer) Chinnatambi Mudaliar as next in authority. Chinna Kattiri Nayaka, the poligar of Kannivādi is also said to have accompanied them with his troops.¹⁴ Vijayarāghava, on the receipt of the news of the

12. *Sources of Vijayanagar History*, Introduction, p. 21. Also the *Ushaparinayam* by Damarla Anka.—*Ibid*, p. 308. The battle of Erode must have taken place in or about A.D. 1670 since the Mysore account says that Chikkadēva Udaiyar (acc 1672), while yet a prince, offered to attack Madura, when negotiations failed. This is further confirmed by the statement that Dāmarla Aiyappa waged a war with him and the latter in his epigraphs dated A.D. 1679 and 1686 claims to have defeated Chokkanatha of Madura and to have taken Tripura (Trichinopoly), etc. See also 'Sriranga III of Vijayanagar' by Mr. R. Sathianatha Aiyar—*Proceedings of the All-India Third Oriental Conference, Madras*, 1924. The reference to the part played by a general of Tanjore is also vague.

13. *The Nayaks of Madura*, p. 173.

14. *The Nayaks of Madura*, p. 165.

advance of Madura troops, is said to have despatched an army to meet them on their way and offer battle, before they could reach Vallam. Dalavāy Venkatakrishnappa Nayaka defeated the Tanjore army and captured the fort of Vallam and soon arrived near the outskirts of Tanjore. Vijayarāghava, learning of the defeat of his army near Vallam, soon collected a large force and came out to fight, along with his Senapati Dalavāy Venkatādri Nayaka.¹⁵ In the fierce battle that ensued, the Tanjore army sustained serious losses. It is said that the Madura Dalavāy proposed peace terms in vain to Vijayarāghava Nayaka, who ordered his men to march forward for battle, himself marching at their head. His son, Mannārudās, who had been kept in confinement¹⁶ was also released and he was left behind along with another person, called Akkirāju, to be in charge of the ladies of his family and to blow up the Zenana quarters, if the fight should go against Tanjore. It is said that Vijayarāghava, despairing success, gave the fateful signal, by which the Zenana quarters in the palace were blown up and Mannārudās after this, entered the thick of the battle. Shortly after this happening, both Vijayarāghava and his son rushed forward in the battle and fell. Venkatakrishnappa Nayaka proclaimed his victory and returned to Trichinopoly leaving a garrison behind at Tanjore.¹⁷ This battle, which was fatally disastrous in its results to the Nayak's rule in Tanjore, also proved to be the last of the wars of Madura upon Tanjore. Vijayarāghava finding that he could not escape death, faced it with all courage and died gloriously. And Tanjore was annexed by Chokkanatha Nayaka, who put it in the charge of his foster-brother, Aḷagiri Nayaka, who was appointed Viceroy, according to the evidence of the Jesuit letters.¹⁸

15. The chronicles mention one Rangappa Nayaka as the Dalavāy of Tanjore. Also the *Tanjāvūr Aṇḍhra Rājula Charitam*. But an inscription coming from Tirukkoshtiyur (309 of 1923) mentions one Dalavāy Venkatādri Nayaka. Mr K. Sitaramayya also says that Venkatādri Nayaka was his general as he is mentioned in a *Kuravanji Nāṭakam* and also in the *Ushāparinayam*.

16. The reason for his imprisonment is not known. Tradition has a fanciful story to tell. It says that he advanced his love to one of the daughters of Gōvinda Dikshita and when this was brought to the notice of the Nayaka by the minister himself, he ordered him to be put into prison. The *Dakshina India Charitam* by Narasimhalu Naidu, Vol. II.

17. An account of this battle is given in Taylor's *Mss* II, pp. 191-203. Also the *Tanjāvūr Aṇḍhra Rājula Charitam, Sources*. Mr V. Rangacharya gives a detailed account of this war. *Indian Antiquary*, 1917, pp. 58-62.

18. *La Mission*, III, p. 247. The Tanjore chronicles also refer to his appointment.

The reign of Vijayarāghava thus came to an end in A.D. 1673 (the date of this disastrous battle).¹⁹

(b) *The Nayak's relations with the Europeans.*

Vijayarāghava Nayaka's relations with the Portuguese were generally friendly except for a short time. The latter continued to hold the port of Negapatam till the middle of A.D. 1658 when it passed into the hands of the Dutch. Speaking of the Portuguese trade on the Eastern Coast and the patronage shown by the Nayaks to them, Mr Danvers says that in A.D. 1638 both the Nayaks of Gingee and Tanjore were on friendly terms with the Portuguese.²⁰ However, in the keen rivalry between the Portuguese and the Dutch on the question of Eastern trade the Dutch contrived to gain some advantage over their rivals by 1638. In 1636 the Portuguese Viceroy wrote to Lisbon that trade had generally fallen into the hands of the Dutch, who were making attempts to capture San Thome de Meliapore (Mylapore).²¹ The Portuguese, on account of this competition suffered serious losses not only on the coast but also in Ceylon, where their power was slowly declining, yielding place to the rise of the Dutch power. The Danes of Tranquebar were friendly towards the Portuguese; and about 1638 the President of the Danish East India Company, getting intelligence of a projected attack on the Portuguese in Gao and Ceylon by the Dutch, offered his help to them in their defence of Negapatam and Tranquebar, if they were to allow him to establish a factory in Ceylon. When this request was turned down by the Portuguese authorities, the President made another request with a repetition of his offer of help, and this time the request was to allow the Danes to purchase cinnamon, elephants and arecanuts from Ceylon. Nothing came out of this and the Portuguese lost their fort at Batticalova in Ceylon to the Dutch in 1638. The latter were good enough to permit the Portuguese inhabitants to set sail for Negapatam. The Dutch continued to harrass the Portuguese and attacked Goa in 1639 and Malacca in 1641. About this time the Portuguese seemed to have suffered

19. Unfortunately Andre Freire's letter dated A.D. 1673, in which, he says he had given an account of this war is lost to us. Since his subsequent letter dated 1676 begins with a reference to this war and the occupation of Tanjore by Alagiri, the battle must have come to a close by the end of 1673. Lespinay has two dates as he once records the events under July 1672 and elsewhere places them in 1673.

20. *The Portuguese in India*, Vol. II, p. 252

21. *Ibid.*, Vol. II, p. 257.

from an attack made by Vijayarāghava of Tanjore.²² The causes for this attack are not known, but it is known that nothing serious had happened as the Records say that the Nayak of Tanjore soon concluded peace with them. However, they began to decline and Conte de Avieras, writing home in December 1643, informed the king of Portugal that all the rulers of South India were against the Portuguese. In 1658, the Dutch under Major Van der Lean captured the settlement of Negapatam without a shot being fired and the Portuguese surrendered completely. According to the terms of surrender, the Portuguese were to be at liberty to leave the town and take with them all their possessions and goods, as well as their church ornaments, and the Dutch should provide them with the means of conveyance in the transportation of goods.²³

From A.D. 1658 onwards Negapatam was held by the Dutch. From the Dutch Records,²⁴ it appears that Vijayarāghava was at first not favourably disposed towards them and even did not recognise their hold of the town; but subsequently he had to acquiesce in their possession when an army sent by him to oppose them was defeated.²⁵ At the instance of Chinna Chetty, *alias* Mallayya, of whom we have read above, Vijayarāghava gave the Dutch a charter offering them valuable trade concessions on 15th September 1658.²⁶ The deed given by Vijayarāghava begins with a reference to Chinna Chetty, who submitted to him that the Dutch were desirous of carrying on trade operations in the port of Negapatam and says that the Nayak gave the fort, the houses and the yards that were in possession of the Portuguese along with ten

22 That Vijayarāghava besieged the town of Negapatam about 1642 is mentioned in a letter dated January 4, 1643, which says that at Negapatam 'the Portuguese have been put to a great strait, for the Naik of Tanjore hath besieged them now upwards of seven months' Foster: *The English Factories in India*, 1640-45, p. 81. Danvers says that Pedro Boreel, a Dutch Commissioner arrived at Tranquebar and endeavoured to persuade the Naik of Tanjore to continue the war with the Portuguese and to besiege Negapatam, offering him to bring another force to aid him in his capture of the town. The Naik, however, refused to act on this and soon made peace with the Portuguese. Vol. II, p. 284.

23. *The Portuguese in India*, Vol II, p. 324.

24 The two grants from Batavia by Prof. K. A. Nilakanta Sastri. *The Indian Historical Records Commission*, Vol. XIV, p. 39.

25. *The Cambridge History of India*, Vol. V, p. 127.

26. The first grant is dated 15th Mārgali of the Cyclic year Vilambi, corresponding to 15th September 1658. The deed is called a Nammikka Śāsanam (deed of Trust).

villages to the Dutch who were asked to pay to the state an annual tribute as tax thereon. The same charter was renewed for a second time on June 5, 1662 by Vijayarāghava, who now gave them the additional privilege of setting up their own mint for the coinage of gold, silver and copper, the profits of which were to be shared between the Company and the Nayak.²⁷ About 1666 the Dutch got from Vijayarāghava Nayaka the port of Trimelipatam (Tirumalairājanpatnam in the Nannilam Taluk of the Tanjore District) and some other places in its neighbourhood on lease, for a period of three years 'for a sum of 2,800 parados, on condition that the Company were neither to fortify the places nor to disembark any merchandise or cloth in these places.' The Company wanted the lease in order to be able to regulate their dealings with the local dyers and also to be free from the molestation of the Nayak's officers. The issue of these charters shows that Negapatam had definitely passed on from the Portuguese into the hands of the Dutch and that Vijayarāghava, who was opposed to the latter at the beginning, had to reconcile himself with them. The grant of additional villages on lease shows further, that Vijayarāghava became more friendly towards them as years passed on.

The Danes at Tranquebar continued to enjoy their privileges unmolested and free from the Nayak's intervention. However, they do not seem to have fared well at all, for want of regular supply of money and ships from home. President Muschamp wrote to London on October 28, 1629²⁸ that the Danes for want of stock and shipping have finished their trade and by report, their general had gone to surrender their castle to the Dutch for 15,000 rials, but it is supposed that the Naik will not suffer them to enjoy it peacefully, unless upon a new composition which will cost them dear. A Dutch letter from Masulipatam dated September 24, 1628, speaks of the possibilities of the Dutch obtaining Tranquebar should the Danes decide to leave, adding that in the event of their refusing it, "Malaya, (Malliah) the Cōmati, would take it as he had a great trade on the Coast and was afraid of being plucked by one or another of the Naiks." In December 15, A.D. 1629, the Dutch Governor-General at Batavia reported to the Company that Roelant Crape, the Danish Admiral of Tranquebar, had proposed that the Dutch should buy the port of Tranquebar for 12,000 or 15,000 rials of eight and that they had refused it. Another letter dated December 2, 1629 contains a reference

(To be Continued)

27. *Tijdschrift*, Batavia, Deel LXXIX, A fievering I, p. 7.

28. Foster : *The English Factories in India, 1623 to 1629*, p. 347.

Finances of the Madras Province 1920-40

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According to the devolution rules framed under the Government of India Act of 1919, from the 1st of April 1921 the Madras Government made an annual contribution of Rs. 345 lakhs to the Central Revenues. This it continued to do upto 1925 when the contribution was reduced to Rs. 221·98 lakhs. Next year, 1926-27, it fell to Rs. 165·19 lakhs and was wholly abolished in 1927-28.

Simultaneously with the reduction and final abolition of the contribution to the Central Revenues there was a steady and gradual improvement in the receipts from the revenue assigned to the Madras Government. This improvement reached its apex in 1929-30; from which year it began to decline as a result of the world economic depression. With the expansion of revenue expenditure also increased; but owing to the fall in revenue from 1930-31 expenditure had to be drastically cut down.

Year.	Revenue	Expenditure on revenue account	Surplus (+) or Deficit (—) [Column (2)— Column (3)]
(1)	(2)	(3)	(4)
1920-21	16,19 71	14,79 60	+1,40·11
1921-22	15,79 20	16,77·92	— 98 72
1922-23	16,06 22	16,09 24	— 3·02
1923-24	16,47 85	16,11·54	+ 36·31
1924-25	16,27·59	16,57·06	— 29·47
1925-26	16,93·60	15,95·23	+ 98·37
1926-27	16,83 69	15,82·21	+1,01·48
1927-28	17,05 37	15,03·64	+2,01·73
1928-29	17,53·10	16,13·96	+1,39·14
1929-30	18,08·88	16,84·79	+1,24·09

Year.	Revenue.	Expenditure on revenue account.	Surplus (+) or Deficit (-) [Column (2)— Column (3)]
1930-31	16,83·93	17,89·68	-1,05·75
1931-32	16,29 88	16,24 47	+ 5·41
1932-33	16,40 24	15,63 03	+ 77·21
1933-34	15,50·28	15,44 03	+ 6 25
1934-35	15,62·60	15,51 67	+ 10·93
1935-36	15,88 25	15,83 40	+ 4 85
1935-36 (Madras only)	15,57·66	15,31 03	+ 26 63
1936-37	15,58 04	15,77 37	- 19·33

The above figures show that there were surpluses in eleven years and deficits in five years. While the surpluses in the early years were due to retrenchment, the surpluses in the later years were due to remissions of the provincial contributions. The surplus of 1931-32 was due to an unexpected increase in the yield from the excise and stamp revenues. The deficit in 1921-22 was mainly due to the Non-co-operation movement, the Moplah Rebellion, the famine in the Ceded Districts, the general trade depression and the increase in salaries. The total nett surplus for the sixteen years was 549 48 lakhs. Out of these, 3 crores were utilized for paying off loans from the Central Government and the remainder for capital expenditure mostly productive.

The table (in the next page) shows that land revenue receipts were very high in 1925-26 and 1931-32. Revenue from excise fluctuated during the period. It was at its lowest point in 1921-22 and touched the highest in 1929-30. Since then it has declined substantially. The fall in 1921-22 was undoubtedly due to the Non-co-operation movement while the subsequent decline is probably due to economic depression and the increase of illicit practices. The increase in the stamp revenue was due to the amendment of the Court Fees and Stamps Act and the enhancement of the price of the copy stamp paper. At the same time it must be remembered that stamp revenue has shown a tendency to decline due to economic depression and the measures taken to mitigate agricultural indebtedness by the grant of government loans and also because of the establishment of Land Mortgage Banks and Debt Conciliation Boards. Forest revenue reached the peak point in 1929-30 and ever since has been fluctuating. Since 1928-29 there has been a fall in registration revenue.

The following table gives the figures of revenue under the various heads of account :—

Year.	Land Revenue.	Excise.	Stamps.	Forest.	Registration.	Other Heads.	Total.
1920-21	6,87 04	5,45 80	1,78-10	48 68	30 61	96 86	15,87-09
1921-22	7,24-45	4,97-37	1,89 85	44 80	32 56	99 72	15,88-75
1922-23	7,28 35	5,01-31	2,19-84	47-89	35-98	1,00-67	16,34-04
1923-24	7,12 78	5,32 10	2,34 05	48 98	36-86	1,12 52	16,77-29
1924-25	7,40 20	5,02-99	2,41-51	51-19	37-90	1,03 46	16,77-25
1925-26	7,70-70	4,94-35	2,45-08	51-29	38-60	1,14-92	17,14-94
1926-27	7,54 32	5,10-14	2,52 30	54-98	40-53	1,16-81	17,29-08
1927-28	754-35	5,34 37	2,50 11	53-44	39 06	1,25 63	17,56-96
1928-29	7,50-31	5,58-75	2,51 17	61 54	34-12	1,41-30	17,97-19
1929-30	7,50 41	5,92 25	2,50-92	63-54	34-48	1,55-46	18,47-06
1930-31	7,16 59	5,28-37	2,34-71	51-16	30 37	1,51 85	17,13-05
1931-32	7,69-38	4,28-99	2,34 93	45 29	29-79	1,22-52	16,30-90
1932-33	7,46-84	4,31 69	2,41 58	49-68	32 47	1,21 23	16,23-49
1933-34	6,92-54	4,29 59	2,28 11	41-55	30-28	1,27 15	15,49-22
1934-35	7,16-51	4,24-55	2,17 11	44-31	31-06	1,32 27	15,65-81
1935-36	7,42-39	4,11 93	2,08-18	44-95	30-30	1,37-34	15,75-09
1935-36 (Madras only)	7,30-52	4,00-36	2,04-45	43-53	29-79	1,35 00	15,43-65
1936-37	7,15-44	4,00-79	1,95-08	43-27	29-95	1,55-04	15,44-57

Turning to expenditure the following table gives the figures for expenditure during the period under review.

Year.	Total.	Transferred departments and Development Services included in Reserved.	Charges common to Reserved and Transferred departments.	Reserved departments. (Security Services and other minor departments.)
1920-21	11,75.85	5,09.60	92 78	5,73.47
1921-22	13,11.54	5,86.86	93.42	6,31.26
1922-23	12,98.83	5,62 32	1,09.36	6,27 15
1923-24	13,21.66	5,76.64	1,20.85	6,24.17
1924-25	13,56.95	6,07 84	1,32 16	6,16 95
1925-26	14,22.97	6,63.33	1,49.19	6,10.45
1926-27	14,85.21	7,05.77	1,75 65	6,03.79
1927-28	15,82.57	7,75.82	1,88.28	6,18 47
1928-29	16,59.58	8,50 26	1,93 93	6,15 39
1929-30	17,26 42	9,08 12	1,87 96	6,30 34
1930-31	18,15 07	9,88.07	1,82 48	6,44.52
1931-32	16,26.58	8,34.78	1,83.61	6,08.19
1932-33	15,22.50	7,56 12	1,89.79	5,76.59
1933-34	15,48.97	7,70 60	1,95.58	5,82.70
1934-35	15,54.34	7,67.74	1,94 07	5,92.53
1935-36	15,85 81	7,89 64	2,00 80	5,95 37
1935-36 (Madras only)	15,32 59	7,61.42	1,97.91	5,73 26
1936-37	15,77.09	7,97.57	2,00.10	5,79.42

In 1930-31 the total expenditure was 18,15.07 lakhs of rupees. The expenditure on transferred departments and development services had increased that year by 94% as compared to 1920-21 and that on security services and minor departments by 12%.

According to the Government of India Act of 1919 the Provincial Governments were empowered to raise loans on the security of the revenues allotted to them. On the 1st April 1921 the Government of India debited to the Madras Government 8,75.26 lakhs of rupees. This represented the capital expenses incurred by the Government of India upto 1921 for constructing protective and productive irrigation works in the Madras Presidency. The Government of India were only en-

titled to interest at a fixed rate on this amount but at the same time the option of amortizing the debt was given to Madras. In 1936 the Madras Government debited Rs. 47·07 lakhs to the Orissa Government. In 1937 the outstanding debt of the Madras Government to the Central Government was 8,28·19 lakhs. The annual interest on this amount was 28·12 lakhs. In addition to this debt the Government of India had debited to the Madras Government a sum of Rs. 108·86 lakhs. This represented loans which the Government of India had advanced to local authorities and cultivators. The Madras Government repaid this debt to the Central Government in twelve annual instalments; and it was finally cleared off in 1932-33.

According to part III of the Government of India Act, 1935, the scheme for the decentralization of balances came into effect on 1st April 1937. Along with this there was a consolidation of the debt owed by the Madras Government to the Central Government. At the same time the Government of India held 771·75 lakhs of deposits of various kinds which they had to repay to certain provincial bodies in Madras. The Madras Government took up this liability in return for adjustment by way of reduction of its pre—1921 debt to the Central Government. By this method the pre—1921 debt got reduced to 56·44 lakhs. After this adjustment the total amount owed by the Madras Government to the Central Government was 756·71 lakhs which included the 56·44 lakhs of the pre—1921 debts. All this amount was consolidated into a single debt and the average rate of interest on this debt worked out at 4·71%. This debt was to be paid off within a period of 45 years commencing from 1937-38 and ending in 1981-82 with interest at the rate of 4·5%. The option of redeeming the debt earlier was given to the Madras Government: an amount not exceeding one half of the principal could be returned between 1st April 1945 and 15th October 1946 and the whole or any part of the remainder of the debt between 1st April 1960 and 16th October 1961. The net result of the consolidation was that the debt charges which stood at Rs. 87·67 lakhs under the old arrangement became reduced to Rs. 53·37 lakhs in 1937-38. At the same time the Provincial Government lost interest on about Rs. 55 lakhs on account of furnishing the minimum balance with the Reserve Bank, cash in treasuries and sub-treasuries and of financing all the floating debts. Another fact that has to be mentioned here is that the Madras Government has saved every year roughly 22 lakhs by the Separation of Orissa. On the whole Madras Finance was in a sound position at the advent of Provincial Autonomy. Compared with the opening balance on 1st April 1921 of 58·78 lakhs, on 31st March 1937 there was a revenue closing balance of 61·86 lakhs. Besides this the Madras Government had on

the same date a closing balance of 63·89 lakhs composed of depreciation funds of commercial undertakings, deposits etc. Thus on the 31st March 1937 the total balance to the credit of the Madras Government was 125·75 lakhs apart from the securities held in the Madras Famine Relief Fund.¹

With the advent of Provincial Autonomy in 1937 the functions of the Provincial Government were widened and the New Provincial Governments were eager to strengthen the social services even if that involved deficit budgets and the floatation of new loans. At the same time there was retrenchment in the more costly services and expansion in other directions. The new policy was to some extent handicapped by the lack of control of the Provincial Government over certain items of expenditure and by the lack of scope for further taxation in certain directions. Since further income from taxation was difficult to obtain expenditure had necessarily to be limited.

Even before Provincial Autonomy expenditure in Madras had been fairly well directed, there was an increase of 27% in the Madras expenditure on social services when compared to the period before dyarchy. This cannot be said of any of the other major provinces. Consequently the increase during the period of provincial autonomy in Madras was low as compared with other provinces. Whereas absence of such increase in the dyarchic period has resulted in showing a much higher percentage of increase during the period of provincial autonomy in other provinces. The following table shows the expenditure in Madras from 1937-38 to 1939-40.

Year		Primary functions of Govern- ment	Development Services	Charges Common	Total
1937—1938	..	6,60 26	7,90·80	1,31·90	15,82·96
1938—1939	..	6,51·92	8,33·65	1,35·19	16,20·76
1939—1940	..	6,60·63	8,46·34	1,33 75	16,40·72

Expenditure on the primary functions of government increased at the introduction of provincial autonomy. This is due to frequent meetings of the legislature, long sittings costing increased secretarial staff,

1 All the figures and tables have been taken from Budget Memorandum 1939-40, Government of Madras, Finance Department.

and other constitutional changes including the bi-cameral system. The introduction of prohibition also involved additional expenditure. On the other hand reorganization of departments and retrenchment of unnecessary posts and the stoppage of the hill exodus effected some savings. The net result was that expenditure on security services showed a slight fall.

Turning to development services we shall take up a few items for scrutiny. The following table shows the expenditure on education:—

1937—38	..	..	257·95	(Accounts)
1938—39	..	..	261 57	(Budget Estimate)
1938—39	..	..	262 51	(Revised Estimate)
1939—40	..	..	264·57	(Budget Estimate)

Though the figures show a rise as compared with previous years compulsory primary education, though realised to be highly necessary, could not be introduced since it involved an expense of 6½ to 7½ crores. Expenditure on medical relief also shows a marked increase. Special attention was devoted to water-supply. Efforts were made to combat epidemic diseases and to distribute quinine and initiate anti-malarial measures. A sum of Rs. 1½ lakhs was set apart annually for this purpose. Between 1937-40 during a period of three years a sum of 18 lakhs of rupees has been spent on rural water-supply. In this matter Madras is second only to Bombay which has spent 28·25 lakhs. It is clear, therefore, that public health received special attention during the period of provincial autonomy.

Section 45A (Rule 29 of the Devolution Rules and Schedule 1V) of the Government of India Act 1919 which came into force on 1st April 1921 provided for the establishment and maintenance of a famine relief fund in Madras. The provincial revenue set apart for this purpose was 6·61 lakhs annually; this amount was reduced in 1928-29 to 3 lakhs. This sum was to be utilized for famine relief during the year; if there was an unspent balance it was to be added to the Famine Relief Fund. When, however, the Famine Relief Fund reached a maximum of 40 lakhs the provision of an annual amount for expenditure on famine relief was optional. This fund was regarded as invested with the Governor-General in Council who paid interest. On the 1st April 1935 this fund reached the highest point viz., 61·53 lakhs and on 31st March 1936 it was 41·48 lakhs. The Government of India Act 1935 did not provide for the continuance of the Famine Relief Fund; but the Madras Government passed the Madras Famine Relief Fund Act of 1936 by which it continued to maintain a famine relief fund with the balance to its credit with the Central Government on this head, as its nucleus.

During the period 1936-37 to 1939-40 there has been an increase in the revenue receipts of Madras. The following Table shows the revenue distributed over the important heads:—

Year.	1937-38	1938-39 (Revised estimate)	1939-40 (Budget)
Taxes on income other than Corporation tax	18.75	22.95	24 15
Land Revenue and irrigation minus working expenses	6,80 66	6,87.90	7,04.70
Excise	4,03 07	3,68 34	3,55.04
Stamps	1,92.69	1,66 78	1,67 24
Forests	50.46	45.28	44 66
Registration	33.29	31 68	31.74
Motor Vehicles	53.95	80 60	82 91
Other Taxes and Duties	2 87	2 36	18 34
Electric Schemes minus working expenses	17 53	19 67	30 80
Other Heads	1,47.35	1,97.63	1,63 87
Total	16,00 62	16,23 19	16,23.45

There has been an increase in land revenue during the period; and this is in large measure due to favourable seasons and the collection of previous arrears. In the matter of excise which accounted for 25% of the total receipts there has been a decrease in the yield owing to the introduction of prohibition. It must at the same time be added that though there were no collections from the dry areas, the wet areas registered an increase in revenue. The receipt under stamps also showed a decline since measures for debt relief led to a fall in litigation. In 1938-39 grazing fees were reduced by 50% and there has been a consequent shrinkage in forest revenue.

At the same time new sources of revenue were tapped. First among them, in point of time, was the entertainment tax. This tax had already been introduced in Bengal as early as 1922 and therefore it was not new to the country. It had also been adopted in Bombay, Sind, Punjab, U.P. and C.P. before it came to Madras. For a long time it was a source of revenue for local bodies. In 1939 it was made a pro-

vincial item and the local bodies were compensated. Duties on electricity and motor spirit were also attempted. A tax on tobacco was also levied. This tax had also been in existence in other provinces before Madras adopted it. Another measure of taxation was the Sale of Cloth Act 1937. The latest measure introducing new taxation is the Madras General Sales Tax Act of 1939.

Coming to the loan policy of the Madras Government during the period of provincial autonomy one notes that the public debt of the province has increased. This has been the case in all provinces except Bombay and Sind. The debts of the Madras Government rose from 11.05 crores to 16.17 crores of rupees during the period.

A review of the revenue and expenditure of Madras during the past two decades shows that both the income and the expenditure of the Madras Government have increased during the period; but the increase in income has not kept pace with the increase in expenditure. The sources of revenue which have been assigned to the provinces by the Government of India Act 1935 are inelastic; while the functions assigned to the Provincial Government demand much greater expenditure. To remedy this state of things it would be necessary for the Central Government to accelerate the remissions under Income Tax till at last that tax becomes entirely a provincial source of revenue. The income from forests can be substantially increased by a more scientific forest policy. Further retrenchment in expenditure is scarcely possible. The possibility of the state running public utility concerns has to be explored. This province may attempt a monopoly of tobacco.

That there should be a substantial increase in expenditure on productive and nation building undertakings cannot be doubted. Since increased taxes must be based only on increased taxable capacity of the people planned and concerted measures must be taken to improve the income of the people. Haphazard methods will never lead to any substantial improvement and hence a definite plan with a time-limit should be put into force. Money is needed for all this. And one method of securing further income is the introduction of new taxes. These taxes would involve a redistribution of the incidence of taxation.

The first step in this direction would be a scientific study of the working of existing taxes and the scope for new taxation. Taxes on succession would be a productive source of revenue. The present system of land revenue needs careful investigation and the possibility of tapping larger revenues from land has to be carefully considered. Speci-

fic taxes on trades and professions may also be attempted. Taxes on luxuries and advertisements as sources of revenue for local bodies may also be examined. Transit and octroi duties which have been suggested by some people should be avoided since that would involve further restraint on the free flow of goods within the country.

A popular Government can never content itself with a policy of maintaining law and order. The motto of conservative financiers of taxing low and spending low must be discarded and within the bounds of solvent finance a bold and forward policy in regard to taxation, loans and expenditure has to be followed. This well-planned and co-ordinated policy must have as its aim the maximising of the agricultural and industrial production of the country and the improvement of the conditions in which the millions of the country live and labour from day to day. No higher task can await the future provincial finance ministers than the initiation and adoption of a sound and well conceived economic policy which is calculated to banish from our country, poverty, ignorance and disease. In the field of finance, as in other spheres of human activity, extreme conservatism may be only another name for stagnation; and a policy which appears risky and dangerous may prove in the long run to be the safest and most beneficial.

Bharati and Keats

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If the following lines of Keats :—

✓ And they shall be accounted poet-kings
Who simply tell the most heart-easing things

are true, Poet Subramaniya Bharati, who flourished in the first quarter of this century, must be regarded a poet-king. John Keats thought that it was easier to think what poetry should be than to write it. But modern writers such as Mr. Housman would tell us that it is far easier to say such and such lines are poetry than to define poetry. Just as a terrier is able to scent a mouse without being able to define it, one can enjoy poetry without being able to say what poetry is. If, to be accounted a poet-king one need simply “tell the most heart-easing things,” Bharati was certainly a poet-king. For sheer simplicity of expression of high and noble thoughts he has a few compeers in Tamil literature. In almost every part of the Tamil country, where nationalism is prevalent there are hosts of people on whose minds in particular he has a strong hold. They have an immense love for his poems and an irresistible desire to read or sing them aloud. He has produced combinations which would give him a high rank among the Tamil poets of modern times because of their appeal to the ear. Verses taken at random would illustrate this statement.

Among things that brought him to prominent notice must be mentioned his ardent love of the country in which he was born and for which he was prepared to offer sacrifices and undergo suffering. To him the Tamil country was sweeter than nectar :—

Amiṭṭil iniyatadi pāppā—nam
Āṇṛōrkaḷ dēsamaḍi pāppā.

As soon as he heard the word ‘Tamiḷnāḍu’ sweet honey poured into his ears and as soon as the word ‘Fatherland’ was uttered there came through the breath a marvellous spirit. This idea is contained in the following lines :—

Sen Tamil nāḍen_um pōti nīlē—inpat
 Tēṇv_untu pāyutu kātinīlē—ēṅkaḷ
 Tantaiyar nāḍen_{ra} pēccinīlē—oru
 Sakti pirakkutu mūccinīlē—

To him Bhārata-dēsam or India appeared to be the best country in the world. Witness for instance the following lines:—

Pār_ukkullē nalla nāḍu—ēṅkaḷ
 Bhārata nāḍu.

He has sung in many places to the praise of the country where his father and mother and their fore-fathers had lived and played, where several women with golden bodies had played and played in broad moon-light or in the river, and where several women, giving birth to their golden children, had nursed and fondled them. What a contrast to Keats who, though he said,

“Happy is England! I could be content
 To see no other verdure than its own;
 To feel no other breezes than are blown”

was anxious to see other climes and especially other beauties! Keats, though he said,

“Happy is England, sweet her artless daughters;
 Enough their simple loveliness for me”

was burning to see “beauties of deeper glance, to hear their singing, and to float with them about the summer waters.” To Bharati the ladies of Tamilnād appeared to be quite angelic. Not that Bharati did not want to see ladies of other climes but that to him angels, certain celestial beings and certain goddesses appeared as though they were women of Tamilnāḍ.

Bharati's poems abound in repetition of a word or phrase. Human nature requires that a thing should be said twice or thrice if it is to be believed. At any rate, that is the view of Mr. E. A. C. Lamborn. That ought to explain why Milton, in his cruel deprivation, cried:—

Oh dark, dark, dark amid the blaze of noon
 Irrecoverably dark, total eclipse
 Without all hope of day.

Bharati was highly enamoured of the worship of Sakti, the Goddess of Energy who, according to him, stands supreme to the Hindu Triad. In

order to emphasise to the world the worship of her he has repeated the expression Sakti ever so many times. For instance, under the title '*Sakti Tiruppuhal*' he has said:—

Sakti Sakti Sakti Sakti Sakti Sakti enṛōtu
Sakti Sakti Sakti enṇār—sākār enṇē niṇṛōtu

and again

Sakti Sakti Sakti Sakti Sakti Sakti vālī nī.
Sakti Sakti Sakti Sakti Sakti Sakti vālī nī.

In another place he has said again

ōm Sakti ōm Sakti ōm Sakti ōm Sakti
ōm Sakti enṇu urai ceytiḍuvōm.

It appears as though Sakti would be conjured by means of uttering the expression time and again. Otherwise his 46 verses going under the title '*Dedication of the Soul to the Sakti*,' would cease to have great value. The burden of the song is "Sakti taṇakkē adimai ākku, Sakti taṇakkē adimai ākku." With these exquisite examples of his melody one can compare Keats'

Shed no tear! Oh, Shed no tear
The flower will bloom another year.
Weep no more! Oh weep no more

+ * * *

Dry your eyes, oh dry your eyes!

† * * *

Shed no tear! Oh, shed no tear

* * * *

Adieu, adieu—I fly, adieu,

* * * *

Adieu, adieu.

Again, with the melodious and creative beauty in the fore-going verses of Bharati one can compare Keats' song

"Spirit here that reignest!
Spirit here that painest!
Spirit here that burnest!
Spirit here that mournest!
Spirit! I bow

* * * *

Spirit I look * * *

* * * *

Spirit here that laughest !
 Spirit here that quaffest !
 Spirit here that dancest !
 Noble soul that prancest !
 Spirit ! With thee
 I join in the glee "

Keats is reported to have said in his youth

" Give me women, wine and snuff
 Until I cry out ' hold, enough ' "

* * * *

They aye shall be
 My beloved Trinity "

Whether this is true or not, that he said " the poet enjoys light and shade and lives in gusto " in a letter to Woodhouse is beyond doubt. The latter statement applies to Bharati in a remarkable manner, for he wished to enjoy moon-light and the shade of the cocoa-nut palms and to live in great gusto as is evident from his three verses entitled '*Kāni Nilam*'. There he has said that he required a storeyed palace with a well, cocoa-nut trees numbering 10 or 12, tender cocoa-nuts, milk-white moon-light, and the sweet notes of a cuckoo. There he would require Goddess Sakti to guard the place while he, with an artless, chaste girl, would sing and dance. The verses under this title would bring to one's mind the following lines of Keats in '*Sleep and Poetry*':—

First the realm I'll pass
 Of Flora, and old Pan : sleep in the grass,
 Feed upon apples red, and strawberries,
 And choose each pleasure that my fancy sees ;
 Catch the white-handed nymphs in shady places,
 To woo sweet kisses from averted faces,—
 Play with their fingers, touch their shoulders white

* * * *

* * * *

Another will entice me on, and on
 Through almond blossoms and rich cinnamon ;
 Till in the bosom of a leafy world

We rest in silence, like two gems upcurl'd
In the recesses of a pearly shell.

Three ruling passions of Bharati's life appear to have been poesy, fame and beauty. In this way he was like Keats who thought that verse, fame and beauty were intense and unlike Keats who thought at the same time that death was intenser and that death was life's high meed. The nine verses going under the title '*Mūṇṇu Kātal*' would indicate that Bharati strove for poesy, fame and beauty. Stripped of the allegory this poem would represent that he was anxious to obtain the grace of Sarasvathi the Goddess of Learning, of Lakshmi the Goddess of Wealth and of Kālī the beautiful Mother-God. This poem shows that he enjoyed the grace in ample measure of the first two Goddesses; but that they occasionally eluded his grasp has also been made plain. He did not, however, say as Keats did

"O folly! What is Love! and where is it?
And for that poor Ambition—It springs
From a man's little heart's short fever-fit;
For Poesy!—no—she has not a joy—
At least for me—.

Though Keats had a great passion for fame as is evident from a line in his Sonnet "Verse, fame and beauty are intense indeed," he scorned those people who strove for fame. Witness for instance the following lines on '*Fame*':—

Fame, like a wayward girl, will still be coy
To those who woo her with too slavish knees,
But makes surrender to some thoughtless boy,
And dotes the more upon a heart at ease;
She is a Gipsy, will not speak to those
Who have not learnt to be content without her;

* * * *

Ye love-sick Bards! repay her scorn for scorn;
Ye Artists lovelorn! madmen that ye are!
Make your best bow to her and bid adieu,
Then, if she likes it, she will follow you.

But, Bharati never scorned fame nor scorned those that were trying to obtain fame. In several places we find him courting fame. For instance, under the caption '*Vēṇḍum*' he has said

"Dharaṇiyilē perumai vēṇḍum"

something ephemeral, if not illusory. That is why in his condemnation of Māya he has said “*Ō māya ! Shall I take as true the happiness you give*” (Verse 6.), and again “*Ō māya ! What shall you do with those that know that this body is after all nothing*” (Verse 4.).

Even though Keats said in one place

“Ever let the Fancy roam,
Pleasure never is at home :
At a touch sweet pleasure melteth,
Like to bubbles when rain pelteth ;
Then let winged Fancy wander
Through the thoughts still spread beyond her,”

he said at another

“Welcome joy, and welcome sorrow

* * * *

I do love you both together ,

* * * *

Fair and foul I love together.”

But Bharati was always and invariably longing for joy and happiness. This is evident from his repeated requests to the Goddess of Energy that his lot must be joy alone and never grief, happiness alone never sorrow. For instance, in ‘*Pōrri Agaval*’ he has stated

“*Inpam kēṭṭēn ivāy pōrri*
Tunpam vēṇḍēn tuḍaippāy pōrri.”

Further, the sixth verse relating to ‘*Dēsa Muttu Māri*’ runs as follows:—

Tunpamē iyarkai eṇum collai marantiḍuvōm
Inpamē vēṇḍi nirpōm yāvum avaḷ taruvāḷ.

Whereas Keats thought that Death was life’s high meed and said

I know this Being’s lease,
My fancy to its utmost blisses spreads;
Yet would I on this very midnight cease,

Bharati has given expression in many places to his desire to survive and last long. One of the reasons why he asked people to worship Sakti was that they might thereby conquer Death. He himself was a staunch be-

liever in an ever lasting and imperishable life. At one place he has said that by the worship of Sakti people could live with fame for 100 years. In another (in St. 7 of 'Shiva Sakti Pugal') he has stated that if there were the grace of Sakti people could live eternally. In yet another place ('Mahā Sakti Venpā' St 4.) he has shown that he believed that the Goddess has made us all in order that we might live 100 years. He has clearly expressed himself in 'Pōrri Agaval' (line 23) against Death:—

Cāvinai vēṇḍēn tavirppāy pōrri.

Evidently his guru, by name Kuḷḷaccāmi or Māṅkottāccāmi has told him that man could conquer Death. He was therefore a firm believer in the theory of the immortality of the soul. What Bharatī apparently thought by saying that man could conquer death was that Man's soul was not mortal even though his body was. This could be inferred from the way in which he has appealed to Mahā Sakti either to kill his foul desire or to take away his breath, either to give light to his mind or to reduce him to a corpse:—

Mōgattaik konruviḍu—allāl eṇṇaṇ mūccai nīruttiviḍu

* * * *

Chuntai telivāḱku—allāl itaic cetta uḍalāḱku.

Keats in his 'Ode to a Nightingale' said

"Thou wast not born for death, immortal bird!
No hungry generations tread thee down;
The voice I hear this passing night was heard
In ancient days by emperor and clown."

and expressed himself in favour of leaving the world unseen, and fading away into the dim forest with the nightingale. He wanted apparently to get away from the world "where but to think was to be full of sorrow." Even so Bharatī wanted to soar above and live like a bird, to eat without toil, to reap without sowing, to spend the night with stories, and to sleep and sleep during night:—

(1) Māṇḍarē nīvir eṇ madhattaika
Kaikkonmin; pāḍupaḍal vēṇḍā.

(2) Viṭṭu vidutalai āki nīrpāy intac
Cittuk kuruvīyap pōlē—undu
Marraṇ polutu katai collit tūṅkip pīṇ
Vaikarāyākum muṇ pāḍivīḷippurru

(3) Cinnāñ cīru kuruvi pōlē—nī
Tirintu paṇantu vā pāppā.

(4) Kāṭṭil uḷḷa paṇavaikalpōl vālvōm appā.

Not that these poets had a brief for indolence but that they wanted to emphasise the pleasure of occasional idleness. In a Journal Letter of March-April 1819, as published by Miss Amy Lowell, it is found that John Keats wrote "This morning I am in a sort of temper, indolent and supremely careless." In a previous letter he wrote "I do not know what I did on Monday—nothing—nothing—nothing." Despite this, he wrote in the poem '*Sleep and Poetry*'

"But off despondence, miserable bane
They should not know thee, who athirst to gain
A noble end, are thirsty every hour."

In a similar manner, though Bharati said in one place "hark, toil not, nature will give you food," has said in another ('*Bhārata-māthā Navaratnamālai*' St. 7), that those that serve the mother-country should never be despondent:—

Cuḍutalum kulirtalum uyirkku illai;
Cōrvu, vīlēcigal tonḍarukku illai.

In another point there is striking resemblance between Keats and Bharati and that is in regard to relationship of Man and Woman.

"Woman'
When I see thee meek, and kind, and tender,
Heavens! How desperately do I adore
Thy winning graces;—to be thy defender
I hotly burn—"

so said Keats. Bharati's line of argument was that since all things in the world are said to be God woman being a thing of the world ought to be God. This is expressed in his poem entitled '*Where is God*' (St. 3) and in '*Bharati Sixty-Six*' (St. 45). In this part of the country he had even a sermon to preach: Respect woman (Taiyalai uyarvu cey—'*New Atticūdi*')

In his '*Ode to Fanny*' Keats said "Love, love alone, has pains severe and many" and in his Sonnet commencing as "I cry your mercy—love!" he said

O! Let me have thee whole—all—all—be mine!
 That shape, that fairness, that sweat minor zest
 Of love, your kiss, those hands, those eyes divine

* * > † †

Yourself—your soul—in pity give me all,
 Withhold no atom's atom or I die.

What a parallel to Bharati whose burden of the song in the allegorical poem on the Indian Cuckoo is represented to be

Kātal katal katal,
 Kātal pōyir katar pōyir
 Cātal, cātal, cātal!

The passage means "love, love, love, withhold love, withhold love, and I am dead, dead, dead." In a poem written to a lady in October 1819 Keats remarked

"Give me those lips again!
 Enough! Enough! It is enough for me
 To dream of thee!"

Bharati similarly had a craving which has been expressed in '*Kannammā*—*En Kātalī*':—

Kāttiruppēṇōdi—itu pār kaṇṇattu muttamonru.

Both Bharati and Keats apparently could not brook philosophical obstruction in the path of love. Bharati, for instance, in his vision of '*Krishna—a hunter—as his lover*' was told by him, "Away with your Shastras! I want only happiness with you":—

Ēdi Sāttiraṅkaḷ vēṇḍēṇ—niṇatu iṇṇam vēṇḍumaḍi, kaṇiyē!

In another vision where Bharati was the lover and Krishna was the beloved, Bharati told Krishna, "Why this philosophy! Would those that are warm in love care for this philosophy"?

The passage runs:—

Sāttiram pēsukirāy—Kannammā! Sāttiram ētukkaḍi?
 Attiram koṇḍavarkkē—Kaṇṇammā! Sāttiram uṇṭōdi?

Apart from his appeal to the senses in other places, this alone would suffice to show that Bharati would take a place by the side of John Keats

as a poet of sensuous perfection. The way in which the wondrous serpent-woman has been developed from Burton's "Anatomy of Melancholy," transformed and recreated by Keats contains a happy parallel. The poem '*Lamia*'—Part II—has the following words:—

Do not all charms fly
At the mere touch of cold philosophy?
There was an awful rainbow once in heaven:

* * * *

She is given
In the dull catalogue of common things.
Philosophy will clip an angel's wings,
Conquer all mysteries by rule and line.

When the beautiful *Lamia* is about to be united in marriage with *Lycius*, there steps in *Apollonius*, his sage instructor, as an uninvited guest and with his eyes fixed on her, sends her into a swoon and cries out to *Lycius*

"Fool, fool—from every ill
Of life have I preserved thee to this day
And shall I see thee made a serpent's prey?"

Because of the approach of the philosopher, *Apollonius*, the whole charm of the lovers is fled.

Bharati in his vision of '*Krishna as his Father*' has represented Him as one that would laugh at the untrue *Shastras* of mankind. Further in stanza 7 therein he has said that He was the giver of the *Vedas* but those *Vedas* are not in men's language and in what is called *Veda* to-day there is a small admixture of His *Vedas*. Thus, Bharati lamented that the *Vedas* had been written and revised by persons interested in showing their own religion as the best. What a parallel to this is contained in the words of Keats relating to persons who have written the history of Jesus Christ! Keats wrote "He (Jesus) was so great a man that though he transmitted no writing of his own to posterity, we have his mind and his sayings and his greatness handed to us by others. It is to be lamented that the history of Jesus was written and revised by men interested in the pious frauds of Religion".

Mr. F. M. Owen in his *Study of Keats* has told us that Keats was not merely a sensuous poet but something more. That his imagination and poetic genius carried him beyond the earliest developments of the mind to the spiritual and more prominent elements of human nature is Mr. Owen's opinion. If this is true of Keats, it is truer still of Bharati. Keats in a letter is reported to have said as follows:—"Give me this credit—Do you not think I strive—to know myself? Give me this

credit (of knowing myself) and you will not think that on my own account I repeat Milton's lines

'How charming is divine philosophy
Not harsh and crabbed as dull fools suppose
But musical as is Appollo's lute'

no—not for myself—Nothing ever becomes real till it is experienced". Bharati similarly has said in several places '*Know thyself*' (Deivam nī enru unar—'*New Atticūdi*'). In '*Sarva Madha Samarasam*' (St. 10) the following is found:—"Thou art God, thou art God; God thou art; it is Delusion that takes hold of thy mind and says 'thou art not God'; Remove Delusion and thou wilt know thyself."

Bharati and Keats, who lived in two different countries have so many thoughts that are like and yet unlike. It would be very interesting to make a further comparison of them.

The Hormic Theory

(BEING AN EXPOSITION AND A CRITICAL EVALUATION WITH
ORIGINAL SUGGESTIONS FOR THE IMPROVEMENT AND
EXTENSION OF WILLIAM McDOUGALL'S
PSYCHOLOGICAL THEORY).

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PART I

CHAPTER I

AN EXPOSITION OF THE HORMIC THEORY

Section I. Introduction.

"It is too simple to be true," said a not very friendly critic of McDougall's psychological theory. Yes; it is simple, so simple that it can be expressed in two simple sentences, "Animal, as well as human behaviour is *purposive*"; and "Purpose implies a purposing *mind*." Yet, how profound has been the influence of this theory, not only on academic psychology, but also on the social sciences and animal biology! In psychology, McDougall's hormism has produced a Copernican revolution, shifting the centre of interest from the barren field of abstract cognitive analysis, to the real and living realm of feeling and conation. It has engendered in the psychologist a hitherto unknown degree of self-confidence and a spirit of hopefulness in his capacity to solve the riddles of life. To the student of the social sciences it offers, in the place of the unscientific and self-contradictory *ad hoc* psychologies which each one of them constructed for one's own narrow purposes at variance with and often in defiance of the others, a thoroughly tested, reliable and scientific psychology of human nature. And to the animal biologist, by forcing him to recognise the existence of *mind* even in the humblest of living creatures, hormic psychology opens up a vast vista of knowledge and experience hitherto hidden from him by mechanistic biology. Not only in these major fields, but in other minor ones too McDougall's influence is being felt. There is not a writer of any importance in psychology and the social sciences who does not refer to the great leader of the hormic school. What, then, are the outstanding features of this psychological theory which is known as the hormic theory? It is to the task of supplying an adequate answer to this question that we shall address ourselves in this monograph. An attempt will be made to analyse the theory, and to set forth its various implications. At the same time a critical evaluation of the more significant contributions of the theory to the elucidation of the baffling psychological problems will be made, and, what is of the utmost importance, it will be shown how the defects in the theory may be rectified, and in what directions it may be fruitfully extended. This formidable task is undertaken, because we feel that when the conflicting schools of psychology come to realise the need, as they must very soon, for sinking their differences and for evolving a single all-embracing

psychological theory, they will find that in the hormic theory there is the foundation, well and truly laid, for a unified psychology.

Section II. The Background.

Such an outstanding and epoch-making psychological theory as the hormic theory could not have come into existence without a significant history behind it. But, the purely historical aspect of the theory is not of any great interest to us. What we need is a critical evaluation of the significant antecedents of the theory in the evolution of psychology. In common with the other contemporary schools, the hormic school revolted against the barren intellectualism and introspectionism of the later nineteenth century. Associationism with its atomistic conception of mental structure and function found for itself a fresh source of strength and support in mechanistic biology and chemistry, and physiology of the "muscle-nerve" preparation type. By 1900 a very interesting period of transition was reached in the evolution of psychology, wherein the germs of the brilliant contemporary theories seemed to lie unreconciled by the side of the old principles which were soon going to be thrown over-board. "In theory the psychologists of 1900 subscribed to the definition of psychology as the science of consciousness, but in practice they were studying performance as well as experience. In theory they were for an analytical psychology patterned after chemistry, . . . but in practice they often disregarded this scheme. In theory they were mostly associationists, but not dogmatically so, the high noon of association was already past. In theory they were strong for a physiological psychology, but in practice they made a profound bow to the brain and passed on their way. . . ."¹ It is against this background that we have to view the contributions not only of hormic psychology, but also of other contemporary schools. But in the case of the school we are considering there is an important middle ground which enters into, and colours the foreground. This middle ground is represented by behaviourism "An outline of Psychology", which along with "an Outline of Abnormal Psychology" constitutes the most valuable contribution of McDougall to contemporary psychology, is in fact, one long sustained argument against the conclusions of mechanistic psychology. There are passages in the book illustrative of the use of the great forensic abilities of the author to shatter the conclusions of behaviourism. We have, therefore, to view the hormic theory as a protest not only against the older intellectualistic schools, but also against modern mechanistic behaviourism.

1. Woodworth, R. S.: *Contemporary Schools of Psychology*, pp. 10 and 11.

Some one has remarked that one taking up the study of McDougall for the first time may be led into the belief that our author is a behaviourist, because great stress is laid in his works on "performance" or "behaviour" as against "experience"; and animal studies figure most prominently in the opening chapter of his more important publications. It is true that McDougall attaches great value to the study of animal behaviour and of the active side of human behaviour, but that does not make him a behaviourist. Behaviourism and purposivism are in wide disagreement among themselves. Their agreement is negative in effect. It is similar to the pact which two opposed extremists may enter into for purposes of defeating a common enemy. Both took up a revolutionary attitude towards associationism, and condemned it most emphatically. But there the agreement ended. As soon as behaviourism and purposivism emerged from the distant back-ground of associationism, the latter separated itself from and protested against the aims and methods of the former. For behaviourism the "subject matter of psychology is behaviour—not conscious contents, not mental functions, not psycho-physical processes of any sort, but movements in time and space. Behaviour is the activity of the organism as a whole.....Only objective methods are accepted as valid. Introspection is completely rejected".² The conditioned reflex is the principle *par excellence* of the behaviourist for explaining all the highly intricate and complex problems of human behaviour. The behaviourist sees nothing mysterious in personality, which is merely "the sum total of an individual's reactions and tendencies to reaction." Personality "can be studied by the matter of fact methods of science." "The whole system of behaviour, then, the complete personality, is built up out of a few simple reactions by the process of conditioning. A limited *repertoire* of native responses, the process of conditioning, the stimuli provided by the body and by the environment, social as well as physical—these are all that the behaviourist needs."³ The S—R formula is the foundation of behaviourism, study of behaviour, prediction of future acts of behaviour and their control on the basis of this mechanistic formula are its aims. And against every one of the principles implied in the method and aims of behaviourism McDougall protested. So, we have to consider the development of purposivism against this middleground of S—R psychology. Purposivism exposes the inherent defects of behaviourism, corrects these defects, and then, after assimilating all that is of value in mechanism, towers over it in its new-

2. Heidebreder, E Seven Psychologies, p. 243.

3. *Ibid.*

found strength drawn from the correct understanding of the hidden springs of human activities.

Section III. Some relevant aspects of McDougall's early Life and Work

It will be helpful to our general understanding of the hormic position if, before we enter upon a critical discussion of purposivism, we could consider two topics, apparently of minor importance, but yet having some significant bearing on the general trend of McDougall's psychology. These are, (1) the influence of McDougall's early life on his psychology and (2) the value of our author's earlier work in the field of neurology.

All obituary notices of the great leader of hormism have drawn freely on McDougall's autobiographical sketch in the "*History of Psychology in Autobiography*." This article is a mine of information about the way in which McDougall's mind developed, and incidentally it throws light on certain obscure characteristics of purposivism. We may refer at once to the question which has been uppermost in the minds of many students of hormic psychology—why did not McDougall found a school, as Watson did or the Gestalt leaders did? The answer is found in the autobiographical essay. "I have never" says our author, "fitted neatly into any social group, never been able to find myself wholly at one with any party or any system, and, though not insensible to the attractions of group-life, group-feeling and thinking, have always stood outside, critical and ill-content." This inherent mental trait is largely responsible for the utter indifference which McDougall displayed for the benefits to be derived from founding a school of Hormic Psychology. Had he been more aggressive, the hormic theory would have been better understood, and more widely recognised as the most satisfactory principle for the explanation of human behaviour. This fact was brought home to the mind of our author in a very poignant manner in his later life. In the Preface to "*Psycho-analysis and Social Psychology*", published in 1936, McDougall writes, "I have realised too late that I might have done much more for my chosen science, had I from the first spoken with a less modest voice. It seems to me probable that, had I at the outset put forward my views in a more self-assertive and clamant fashion, I might have been acknowledged as the leader of a powerful and perhaps dominant school of psychology, instead of remaining a *well nigh solitary outsider* playing a lone hand; I might even have 'put over' the type of psychology which I believe to be most nearly true, and to be indispensable for the advance of all the social sciences. For, in psychology, far more than in any other field of science, *the prestige and authority of a*

like-minded group would seem to be essential to the success of any theory or system".⁵ The unfortunate mental trait to which McDougall has frankly confessed has forced him to stand aloof as *a solitary outsider*, and has deprived him of the power to create *a like minded group*. The loss is all on our side, the side of students of psychology.

There is another biographical incident of great importance to us. It relates to the genesis of the central hormic thesis, and illustrates strikingly the non-rational and intuitive origin of all great scientific hypotheses. "Lecturing one day in 1906" says McDougall, "I found myself making the sweeping assertion that the energy displayed in every human activity might in principle be traced back to some inborn disposition or instinct. When I returned home I reflected that this was a very sweeping generalisation, one not to be found in any of the books; and that if it was true, it was very important. I set to apply this principle in detail, becoming more and more convinced of its truth, and of its importance, and my social psychology emerged"⁶ First an intuitive insight, and then rational development—that is the way in which science has developed. Accordingly, the great hormic truth revealed itself all on a sudden to the genius of McDougall in a flash of "insight," and then it was patiently developed by the founder of hormic psychology. And in the process of development the theory has undergone radical changes, not always for the better. One of the major aims of this monograph is to indicate the three main stages in the evolution of hormic psychology as marked out by McDougall's *Social Psychology* (1908), *An Outline of Psychology* (1923), and the *Energies of Men* (1932), and to show how on the whole the first named work is superior to the others.

The second topic, which we said is worthy of treatment in a preliminary approach to hormic psychology, is the significance of McDougall's work in the field of physiological psychology. Special importance is attached by us to this work, because it exemplifies the operation of the hormic principle even in the early physiological contributions of McDougall. In a series of brilliant papers contributed to *mind* and *Brain* McDougall showed how the synapse is the real seat of consciousness. As a fruitful corollary to this position he developed a theory of inhibition which is eminently purposive. "According to this theory, inhibition is always the negative aspect of a positive process—the

⁵ *Op Cit*, p. v (*Italics ours*).

⁶ *History of Psychology in Autobiography (Murchison)*, Vol. I, p. 208.

whole event consisting in a redistribution of energy rather than a mere prevention of something that would otherwise occur.....McDougall applied it to a great variety of phenomena at all levels of the nervous system; the reciprocal inhibitions of the spinal level, inhibitions on the sensory level,.....the mutual inhibitions of instincts, and finally many well-known features of the "attention process". The theory seems to fit in admirably, too, with the "displacement" and "sublimation" doctrines of the psycho-analysts and also (as McDougall himself has pointed out in a recent paper) with the phenomena of the conditioned reflex as demonstrated by Parlov.⁷ The theory is of special importance to us, not because of its all-embracing nature, but because it lays the foundation for the category of *purpose* in biology and psychology.

Section IV. The Orienting Category of Purpose.

In estimating the value of McDougall's contribution to psychological theory, it is well to point out at the outset the orientation he has given to the entire field of the study of human nature in its many aspects by the introduction of the category of *purpose*. Causation is the ruling concept in the physical, and evolution in the biological sciences. The social sciences were wandering aimlessly without any such category or guiding principle. Facts had been gathered by the thousand, but those were like so many loosely scattered, disorganised and unoriented iron-filings in a non-magnetic field. McDougall brought into this chaotic mass the powerful electro-magnet of the category of purpose, and immediately the disorderly mass marshalled itself into an orderly sequence of events. Working with its aid and under its guidance the psychologist has no difficulty in unravelling the tangled skein of human behaviour, individual as well as social, conscious as well as sub-conscious. Truly may it be said that the introduction of the concept of purpose has produced a revolution in psychology as deep and significant as the Copernican revolution in mathematical physics. "If psychology can point" says Professor Koffka⁸ "the way where science and life will meet, if it can lay the foundations of a system of knowledge that will contain the behaviour of a single atom as well as that of an amoeba, a white rat, a chimpanzee, and a human being, with all the latter's curious activities which we call social conduct, music and art, literature and drama, then an acquaintance with such a psychology should be worth while and repay the time and effort spent in its acquisition." Such a psychology is

7. Flugel, J C · A Hundred Years of Psychology, pp. 270-1.

8. Principles of Gestalt Psychology, p 23

the hormic psychology of McDougall, and we have no hesitation in affirming that the category which is its foundation is bound to prevail in the realm of the social sciences.

The introduction of the *orienting concept of purpose* into psychology was the result of the objective observation of animal behaviour carefully controlled by rigorous scientific standards. McDougall noted and analysed out certain characteristics of the behaviour of living organisms. They are *spontaneity* of movement; *persistence* of activity independent of the continuance of the stimulus; *variation* of direction of persistent movements in order to overcome obstacles; *cessation* of movements when the goal has been reached and the needs of the organism satisfied, *preparation* for the new situation towards the production of which the action contributes; *improvement* in the efficacy of behaviour with successive repetitions of the act; and finally the *total reaction* of the organism to the behavioural situation. Wherever we notice *all* these characteristics we may safely argue for the purposiveness of the activity of the behaving agent. Purposiveness is the essence of mental activity, and is an expression and manifestation of mind. *The view that all animal and human behaviour is purposive, and that purposive action is fundamentally different from mechanical process is the corner stone of the hormic theory.*

Section V. *The Biological basis of Hormic Psychology.*

In connection with and in support of his hormic hypothesis McDougall has made a very elaborate study of animals at all levels of the evolutionary scale—from the humblest amoeba to the most developed primate next to man. This has given rise to the belief that McDougall has made psychology biological, and the biological foundation has made hormic psychology much more scientific than it would otherwise be. The implications of this statement are far reaching. It is true that animal studies constitute a most important section of McDougall's major works on psychology. But it is not mechanistic biology that our author employs in his investigation of animal behaviour. It is not the biology of "dissection"; it is not the biology of the "muscle-nerve" preparation; it is not the biology of the dead animal, it is not even the biology of the body of the living animal, but it is the *biology of the mind of the animal* and of its purposive behaviour. He makes his position very clear in the *History of Psychology in Autobiography*. "I had come to see," he writes "more and more clearly that the main defect of the psychologies with which I had struggled in the opening years of the century was their acceptance or their compromise with, the mechanistic biology, and their consequent neglect

of the purposive or the biological aspect of all mental life." Besides his Lamarckian experiments on white rats are not controlled by the "tail-less-dog begetting tail-less-puppy" ideology, but by a purely *psychical outlook*. The acquired characteristic whose inheritance is being investigated is distinctly mental as it relates to "Maze Learning."⁹ Speaking of these experiments McDougall says, "...a positive answer indisputably established by experiment would not only give us a working theory of biological evolution, but would be a heavy blow to mechanistic biology. *It would place mind at the very heart of the evolutionary process instead of leaving it as a bye-product of that process* . . ." Hence the biology which McDougall championed was not of the type which would pull psychology down to the level of a science dealing with muscles and bones, but that which would raise biology up to the higher level by forcing it to treat of the mind of animals.

Section VI. Mental Structure and Mental Function.

The consideration of purpose in the realm of animal and human behaviour leads us to the next great contribution of McDougall to psychological theory. Purpose implies a purposing mind. What, then, is the nature of this mind? In answering this question McDougall draws a distinction between *structure and function* which has great value for students of psychology, normal and abnormal. The distinction, let us emphasise at once, is not the usual distinction between neural or cerebral structure and mental function which is somehow to be associated with that structure. It is not the distinction on the basis of which the puzzling difference between neurosis and psychosis is drawn. It is an epoch-making distinction between *mental structure* and *mental function* that McDougall attempts to draw for the first time in the history of psychology. This distinction is bound to revolutionise our outlook in psychology, particularly in abnormal psychology.

The method of inferring structure from function is used very widely in contemporary science. The minute details of the structural organisation relating to electrons and genes, which by their very nature are invisible, have been drawn with astonishing skill. That which is unobservable is made to generate observable behaviour under known conditions. And from the observed results the structure of the organisation which has given rise to these results is inferred by the hypothetico-deductive method. It is in this way that the relative organisations of electrons and protons in an atom, of atoms in a chemical compound, and of genes in a chromosome are reconstructed

9. *Op. cit.*, p. 215.

and presented to us. These, of course, are not arti-facts, but at the same time it must be remembered that they are only mental constructs or conceptual hypotheses, based no doubt on perceptual facts. While such a procedure is believed, to generate "hard objective facts" in the physical sciences, there is no reason why it should not yield the same result in psychology. McDougall employed this well-tried scientific method for establishing those mental facts which constitute the core of the hormic theory.

The implication of this procedure is so little known, even amongst those scientists who make an extensive application of it in their research fields, that it is necessary to elaborate it a little. Spectroscopy is now an important branch of experimental physics. The spectroscope yields, when it is employed in the experiments relating to the structure of the nucleus of matter, a negative with certain characteristic lines. These lines are made the starting points for an elaborate process of hypothetico-deductive reasoning at the end of which (after passing, no doubt, through the highly abstract and symbolic realm of mathematics) a picture is presented to us of the way in which the electrons dance round the protons. Between the final conclusion and the original premise, the connection is remote, inferential, tortuous and hypothetical. Yet the lay man believes that the physicist "sees" electrons just as we see books and inkstands on our table. So great is the ascendancy over the lay mind that the scientist has secured. Similarly from the colour of the eye of the fruit-fly the experimental biologist infers not only the existence, but the exact position of the gene in a particular chromosome in the cell. Here, again the man in the street is blissfully unaware of the fact that the gene is a mental construct. But when the self-same method is employed in psychology, and equally objective conclusions drawn by the hard rigorous scientific method are presented to the lay public, the reaction is different. Every lay man has a mind, and therefore, is not the owner of a mind competent to criticise the conclusions of those who meddle in minds! However, we may assure the lay public that so far as the methodology of the investigation of mental structure goes, hormic psychology is on a level with mathematical physics and experimental biology.

McDougall attaches, very rightly, great importance to this distinction between mental structure and mental function. The concluding sections of the opening chapter of his great work, *An Outline of Psychology*, is devoted to this topic. "Mental structure is" he says there, "that enduring growing framework of the mind which we infer from the observed manifestations of mind in experience and in behaviour ;

and this develops, grows, and even when the mind is at rest, endures.....". Next to the introduction of *purpose* into the erst-while chaotic field of psychology, this distinction between *mental structure* and *mental function* ranks as the most significant contribution of McDougall to contemporary psychological theory.

Section VII. *The Instinctual Structure of Mind.*

The next important contribution is the nature of mental structure as inferred scientifically from behaviour. This is the foundation of hor- mic psychology, and in one sense, is the most valuable gift of McDougall to the whole race of psychologists and sociologists. After a very care- ful examination of behaviour among animals, primitive men and civilised nations, McDougall came to the epoch-making conclusion that *mind is instinctual in structure*. He has proved convincingly "that the great behaviour patterns which are so easily discernible in the animal world also underlie *all* human actions. "All is no exaggeration. Like the higher animals, we are born with a few big instinctive drives, forming the warp and the woof of our nervous system. These cause us to pay attention spontaneously to certain things, to feel certain strong desires and emotions in regard to them, and to set about acting in a particular manner. But the manner in which we shall strive for the goals that attract us is less precisely defined than with animals, just as animal instincts are less stereotyped than those of insects."

"By a careful study of our emotional life and of human behaviour under primitive and special conditions, McDougall concluded that *Homo sapiens* and the higher animals are possessed of some fourteen distinct instinctive drives, i.e., inborn, unlearned ways of feeling and acting, which can nevertheless be modified by education to meet civilised needs. Through the veneer of civilised intentions it is often difficult to perceive the fundamental grain of our instinctive constitution, although most people with a frank self-analysis can discern the primitive instinctive drive beyond any of their actions. We have been taught new ways of gaining the old ends, ways not socially objectionable; we are stimulated by many novel settings in place of the old original exciting situation; occasionally we have even learned to be satisfied with goals slightly different from the original biological one....; but we remain, neverthe- less, creatures drawing our life interests from instincts and behaving in predictable emotional patterns. . " It is in these striking words that Professor R. B. Cattell sums up in *Your Mind and Mine*,¹⁰ McDougall's

10. *Op. Cit.*, pp. 97-103

contribution to psychology. There are one or two easily remediable errors in this admirable summary of the central hormic theme: the first is the reference to nervous system in speaking of the nature of instinctive drives; it is not the nervous system, but *mind* that is the seat of these drives: the second error lies in the reference to the *veneer* of civilisation; the difficulty lies not in seeing the relation between so called civilised behaviour and its primitive instinctive origins, but in seeing the relation between such behaviour and its correct instinctive foundation. When these defects are set right we shall have in the quotation given above the gist of McDougall's hormic theory.

Section VIII. The Hormic Revolt.

We are too near the event to realise fully the deep significance of the revolution that has taken place in psychology. Freud and McDougall have blazed the trail through the jungle of the human mind for all future psychologists. The utter futility of analytic psychology confined to cognition was keenly felt by the early sociologists and economists who began to theorise on their own account on the nature of human behaviour. These *ad hoc* psychologies of authors like Paret, Le Bon, and Trotter have had a most pernicious influence on the development of our science, and to this deplorable effect has been added the not less retarding influence of the crude creations misnamed psychologies of writers on ethics. To wipe out these popular psychologies is not easy, and will take a long time. McDougall has essayed the formidable task of setting things right by the publication of his *Social Psychology*. In spite of the simplicity, directness and convincingness of the theory propounded by the leader of the hormic school, misunderstandings of its fundamental doctrines persist in the minds of many leading psychologists. So great is the illusion-creating power of scientific terminology even when it is far removed from fact!

Section IX. What is an Instinct?

It has been mentioned already that hormic psychology gathers facts of mental structure from a careful observation of facts of behaviour. This process has shown that mind, of the animal as well as of man, is "*a bundle of instincts*," to put it rather crudely and bluntly. There is nothing more and nothing less than "instinct" in the mind of any member of the whole range of living organisms from the humblest amoeba to the proudest human being. What, then, is an instinct? "An instinct" is an "innate disposition which determines the organism to perceive (to pay attention to) any object of a certain class, and to experience in its presence a certain emotional excitement and an impulse to action

which finds expression in a specific mode of behaviour in relation to that object."¹¹ In an oft quoted passage McDougall expresses, in language which reaches poetic heights, the great importance of these instinctive structures. "We may say, then, that directly or indirectly the instincts are the prime movers of all human activity, by the conative or impulsive force of some instinct (or of some habit derived from an instinct), every train of thought, however cold and passionless it may seem, is borne along towards its end, and every bodily activity is initiated and sustained. The instinctive impulses determine the ends of all activities and supply the driving power by which all mental activities are sustained; and all the complex intellectual apparatus of the most highly developed mind is but a means towards these ends, is but the instrument by which these impulses seek their satisfactions, while pleasure and pain do but serve to guide them in their choice of the means."

"Take away these instinctive dispositions with their powerful impulses, and the organism would become incapable of activity of any kind; it would be inert and motionless like a wonderful clock-work whose main-spring had been removed or a steam-engine whose fires had been drawn. These impulses are the mental forces that maintain and shape all the life of individuals and societies, and in them we are confronted with the central mystery of life and mind and will"¹²

The concept of instinct is the very life and soul of the hormic theory. Instincts are placed by the hormic psychologist at the very centre of the vortex of ceaseless human strivings. They make or mar human individuals and human societies. There is no act of human behaviour which may not be traced ultimately to one or another of the fundamental instincts. As there is prevalent in the scientific world a great deal of misunderstanding, due either to ignorance or wilful neglect, regarding the nature of the claims and achievements of the central thesis of hormic psychology it is necessary for us to set forth clearly the structure of an instinct.

One of the great merits of the McDougallian system is the extensive use it makes of the funded psychological knowledge of the human race in literature and tradition, and in those stores of common-sense experience, namely, proverbs. "The wise psychologist will regard literature as a vast store-house of information about human experience, and will not neglect to draw from it what he can." Taking a word in common usage he refines its meaning, making its

11. *An Outline of Psychology*, p. 110.

12. *Social Psychology*, p. 18.

connotation scientifically accurate, and then employs it in his psychology. He could have created, as Freud did, an elaborate scientific terminology removed far from current usage, and could have made psychology very abstruse and hence beyond lay cavil. But he chose to keep close to ordinary human experience. The result has been rather disastrous to the reputation of the hormic school of psychology. Critics have become blind to the fact that words in ordinary usage, such as instinct and emotion, when they occur in McDougall's works, have a special connotation. They have, in consequence, misinterpreted many of the valuable conclusions of hormism. To guard ourselves against such an insidious temptation to climb down to easy going levels of pseudo-psychologising, and to warn critics of shallow understanding we shall present here a detailed picture of instinct as conceived by hormic psychology.

Following the laudable method of refining the connotations of words, McDougall first clears the ground by brushing aside the errors in the popular conception of instinct. When man constructs a very complicated piece of machinery, such as an automatic central telephone exchange, we say he is using his intelligence; but when an insect achieves a similar result, as the spider does when he constructs his trap-door device, we say that the action is instinctive. Animals are creatures of instinct while man alone is the proud possessor of intelligence. Instinct and intelligence are thus placed in opposition to each other. McDougall has demonstrated clearly in the opening chapters of "*An Outline of Psychology*" and "*The Energies of Men*" the utter folly of such a view. Drawing his examples from his own observation, and from those of eminent field biologists he has proved beyond any shadow of doubt that animals, even those low down the scale of evolution, are intelligent. It is true that long before McDougall, scientific workers in the field of natural science interested themselves in the problem of intelligence in animal behaviour. But our author was the first champion of animal intelligence to assemble a formidable battery of scientific evidence which shattered to shreds the mechanistic and tropistic conceptions of animal behaviour. Our behaviour has an unmistakable instinctive basis, and animals display remarkable intelligence in many of their acts of adaptation to the environment. Instinct and intelligence are to be used not as contradictory and mutually exclusive, but as complementary principles of explanation of behaviour. In fact, intelligence is a part of instinct, and is subservient to it. "The chief lesson" says McDougall "I would have the student learn from the behaviour of insects is that Instinct and Intelligence are not two diverse principles of action or of guidance of action. Instinctive behaviour is indistinguishable from

intelligent behaviour by any outward mark. . . . Intelligence operates only and always in the service of the instinctive impulses to action".¹³ The conclusion is a great achievement in itself, backed as it is by an indisputable range of scientific evidence. Its implications, however, are of utmost value to the general hormic theory. It grounds cognition and the development of cognitive abilities firmly in conation, making the latter the living stem of which the former are only branches. It dispels the illusion of the old type of psychology that cognition is independent of conation, and is different from it in essence.

The second error which McDougall corrects is a purely scientific one, and so, much more difficult to tackle, and which even when disproved does not fail to exercise fascination over men's minds. Instinct is not to be identified with the congenitally determined preadaptation of the nervous system to react in a special way to specific stimuli. This is the biological view of instinct, and on this view instinctive behaviour is merely one kind of vital adaptation of the organism. Biologists, at any rate some of them, tend to regard instincts as combinations of reflexes, and in any case there is no attempt in biology to rise above the level of the body. Biology, as we have observed already, is interested only in the body of the animal, and its view of instincts is bound to be narrow and unsatisfactory. Psychology should not be misled by biology.

Having dispelled the illusions besetting the concept of instinct, it becomes the duty of the hormic psychologist to describe the true structure of instinct. The first point that hormic theory urges is that *instinct is a fact of innate mental organisation. It is a psychical fact. It is a concrete fact of mental structure or organisation inferred from facts of behaviour.* We are familiar with the marvellous models of life-like wax figures which move their limbs in a very realistic manner. One who has a knowledge of the working of electrical machinery appropriate to these models can, by a careful observation of the movements of these figures, reconstruct the structure of the mechanism hidden inside. Similarly the leader of hormic psychology, with a mind rich in information relating to animal behaviour, has constructed a picture of the structure of mind which initiates purposive behaviour. This picture let us assert, even at the risk of being condemned for unnecessary repetition, is scientifically accurate, and may, without any hesitation, be accepted as their guiding principle by those who seek for a true understanding of human nature.

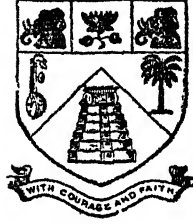
(To be continued.)

13. An Outline of Psychology, pp. 92-3,

PRAMEYAMĀLĀ

BY

VĀTSYA VARADAGURU



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॥ श्रीमते रामानुजाय नमः ॥

॥ वात्स्यश्रीवरदगुरवे नमः ॥

नमश्श्रीविष्णुचित्तार्थपदपङ्कजपांसवे ।
रामानुजमुनीन्द्रोक्तिरहस्यज्ञानहेतवे ॥
जगतामुपकाराय जातं यतिवरात्मना ।
प्रगुणीकृतसन्मार्गं भजामः पुरुषोत्तमम् ॥

॥ श्रीभाष्यप्रमेयमाला ॥

सच्चेतोमधुकरवृन्दसेवनीयां
सौरभ्यं श्रुतिशिरसस्समादधानाम् ।
वत्सानां कुलपतिरदभुतामकार्षी-
दम्लानां वरदगुरुः प्रमेयमालाम् ॥

॥ अध्ययनविधिनिरूपणम् ॥

मीमांसाया विधिप्राप्तत्वागतः प्राप्तत्वविवेकार्थमध्ययनविधिर्निरूप्यते । किमध्ययन-
विधिरर्थज्ञानपर्यवसायो, आहोस्विदक्षरराशिग्रहणमात्रे पर्यवस्यति ? अर्थज्ञानपर्यवसायीति
पूर्वः पक्षः । तथा हि—अध्ययनविधेरक्षरराशिग्रहणमात्रपर्यवसायित्वे मीमांसाश्रवणस्य
प्रवर्तकाभावादनारम्भणीया मीमांसा स्यात् । साङ्ख्यवेदाध्ययनात्प्रयोजनवदर्थपातप्रतीतेरुत्पन्नो-

ऽनुरागो मीमांसायां प्रवर्तक इति चेत्, नैतत्; “वेदमधीत्य अभिसमावृत्य” “वेदमधीत्य स्नायात्” इति श्रुतिस्मृतिभ्यामध्ययनानन्तरं समावर्तनादिप्राप्तेर्मध्ये मीमांसावसराभावात्; मीमांसाश्रवणस्य रागप्राप्तस्य विधिबाधितत्वात् । विधिर्हि रागं बाधते; यथा ‘न कलञ्जं भक्षयेत्’ इत्यादिः । वैधे तु मीमांसाश्रवणे स्नान-विधिरपि श्रवणमबाधित्वा ततः परस्तादेवावसरमश्नुते । स्वतःप्रतीतमप्यध्ययनानन्तर्यं समावर्तनस्यार्थज्ञानपर्यन्ताध्ययनविधिवत्त्वेन बाधितुं युज्यते । रागस्तु न विधिमन्यथाकर्तुमलम् । किञ्च अध्ययनविधेः पुरुषार्थपर्यवसानावश्यम्भावात् पाठमात्रस्य चापुरुषार्थत्वात्पुरुषार्थपर्यवसानायावश्यमर्थज्ञानपर्यन्तो विधिरास्थेयः । किञ्च यद्यक्षरराशिग्रहणमात्रपर्यवसायी विधिस्स्यात्, तदा पाठग्रहणार्थतया विनियुक्तत्वात्स्वाध्यायस्याविवक्षितार्थता स्यात् । ततश्च तदर्थविचाररूपा मीमांसा नारम्भणीया स्यात्; तस्मादध्ययनविधिरर्थज्ञानपर्यवसायीति ।

राद्धान्तस्तु—नाध्ययनविधिरर्थज्ञानपर्यवसायी; किन्तु अक्षरराशिग्रहणमात्रे पर्यवस्यति; अप्राप्तप्राप्तकत्वाच्छास्त्रस्य । ‘अप्राप्ते शास्त्रमर्थवत्’ इति हि न्यायविदः । मीमांसाश्रवणञ्च साक्षादध्ययनवतः पुरुषस्य प्रयोजनवदर्थपातप्रतीत्या रागतः प्राप्तमिति न तत्र विधिना व्यापरितव्यम् । स्नानविधिस्तु रागं बाधत इति चेत्, किमिति बाधते? स्नानादेरध्ययनानन्तरभावित्वादध्ययनोत्तरकालस्य कृत्स्नस्य स्नानादिविध्यवरुद्धतया मध्येऽवसराभावान्मीमांसाश्रवणं बाध्यत इति चेत्, नैतदेवम्; न हि स्नानादिविध्यः कृत्स्नं कालमवरुन्धते; रागतः प्राप्तानां द्रव्यार्जनभोजनादीनाञ्चानवसरप्रसङ्गात् । याजनाध्यापनप्रतिग्रहा हि द्रव्यार्जनोपायतया रागतः प्राप्ता इति न विधिविषयतामनुभवितुमर्हन्ति । श्रावयिता चाचार्यः कर्मविध्यनवरुद्धावसरलाभादेव हि श्रावयति । तस्मान्मीमांसाश्रवणस्यापि रागतः प्राप्तस्य स्नानादिविध्यनवरुद्धेष्वेव कालेष्ववसरसम्भवान्न तस्य स्नानादिविधिबाध्यता ।

यत्तुक्तम्—विधेः पुरुषार्थपर्यवसानार्थज्ञानपर्यवसायित्वमास्थेयमिति; तत्रेदं प्रष्टव्यम् । किं साक्षात्पुरुषार्थपर्यवसानाय विधेरर्थज्ञानपर्यवसायित्वाश्रयणम्? आहोस्वित् परम्परया पुरुषार्थपर्यवसानायेति? । न तावत्प्रथमः कल्पः; अर्थज्ञानस्यापि साक्षात्पुरुषार्थत्वाभावात् । तस्य हि स्वर्गादिसाधनयागाद्यनुष्ठानोपयोगितयैव पुरुषार्थत्वान्न स्वर्गादिवत्साक्षात्पुरुषार्थत्वम्

ततश्चार्थज्ञानपर्यवसायी विधिर्न स्यात् । द्वितीये तु कल्पेऽर्थज्ञानवत्पाठग्रहणस्यापि परम्परया पुरुषार्थत्वसम्भवात्तस्मिन्नेव विधिपर्यवसानं स्यात् । इयांस्तु विशेषः—एकस्मिन्पक्षे स्वतः प्राप्तमर्थज्ञानमिति तत्र विधिव्यापारकल्पनावैयर्थ्यम् ; अन्यत्र च तदभाव इति ।

यच्चोक्तम्—विधेः पाठग्रहणपर्यवसायित्वे स्वाध्यायस्य स्वार्थेष्वतत्परत्वमापद्यत इति ; तन्न । न ह्यन्यतः प्राप्तमर्थपरत्वं पाठग्रहणपर्यवसायो विधिव्याहन्ति । यथा परमतेऽध्ययन-विधिसिद्धमर्थपरत्वं स्वाध्यायस्य जपविधिर्न विहन्ति, तथात्रापि व्युत्पत्तिसिद्धं स्वाभाविकमर्थ-परत्वन्नाध्ययनविधिर्विहन्तुमलम् । यथा च बह्नेरुष्णत्वभास्वरत्वशक्तियुक्तस्य पाकार्थमुष्णत्व-शक्त्या विनियोगेऽपि भास्वरत्वशक्तिप्रयुक्तमर्थप्रकाशनं न विरुध्यते ; एवमक्षरस्वरूपेण पाठार्थ-तया विनियोगेऽपि बोधकत्वशक्त्यर्थपरत्वं न विरुद्धम् । किञ्च, ‘स्वाध्यायोऽध्येतव्यः’ इति स्वाध्यायस्य कर्मत्वावगमात्तस्यैव साध्यत्वमवगम्यते । यथा ‘अग्नीनादधीत’ इत्यग्नीनां कर्मत्वावगमात्तेषामेव साध्यत्वमित्याधानविधिरग्निग्रहणमात्रे पर्यवस्यति ; एवमध्ययनविधिः साध्यतयावगतस्वाध्यायग्रहणमात्रे पर्यवस्यति । स्वाध्यायशब्दवाच्यञ्चाक्षरराशिमात्रम् ; नार्थज्ञानमपि । तस्मात्स्वाध्यायशब्दवाच्योऽक्षरराशिरेवाध्ययनसाध्य इत्यवगम्यते । अत एवेद-मपि निरस्तम्—यदध्ययनं नियोगविषयो न स्वाध्यायसंस्कार इति कैश्चिदुत्प्रेक्षितम् । द्रव्य-निष्ठस्य हि भावार्थस्य न नियोगविषयता युक्ता । यथा आधानस्याग्निनिष्ठस्य न नियोग-विषयता, यथा चावघातादेर्ब्रह्मादिनिष्ठस्य न नियोगार्थता ; अत्रापि स्वाध्यायस्य कर्मत्वावग-मात्स्वाध्यायनिष्ठमध्ययनमवगतमिति न नियोगविषयत्वम् । ‘सक्तूञ्जुहोति’, ‘सुवर्णं भार्यम्’ इत्यादिषु कर्मत्वावगमेऽपि नियोगविषयत्वं दृष्टमिति चेत्, तन्न ; कर्मत्वं नाम कर्तुः क्रिययाप्तुमिष्टतमत्वम् । अतः कर्मतयावगतस्य साध्यत्वं स्वतः प्रतीयते । क्वचित्तदेव हेतुवशादपोद्यते ‘सक्तूञ्जुहोति’, इत्यादिषु । कस्तत्र हेतुः ? विनियोगान्तरादर्शनमिति ब्रूमः । संस्कारार्थस्य हि द्रव्यस्य विनियोगान्तरेण भवितव्यम् । संस्कारो हि नाम कार्यान्तर-योग्यताकरणम् । अत्र त्वर्थबोधजपादिलक्षणकार्यान्तरदर्शनाच्च स्वतः प्राप्तसंस्कार्यत्वस्यापवाद इति स्वाध्यायसंस्कार एवाध्ययनम् । अतोऽध्ययनविधिरक्षरराशिग्रहणमात्रपर्यवसायी ; मीमांसारम्भश्च रागप्राप्त इति स्थितम् ॥

॥ इति वत्सकुलतिलकश्रीवरदगुरुविरचितायां श्रीभाष्यप्रमेयमालायां

अध्ययनविधिनिरूपणम् ॥

॥ अथ ऐकशास्त्र्यसमर्थनम् ॥



ऐकशास्त्र्यमथ ब्रूमः कर्मब्रह्मविचारयोः ।
शारीरकाद्यसूत्रोक्तपौर्वापर्यप्रसिद्धये ॥
वेदाख्यैकप्रबन्धार्थविषयत्वात्तदिष्यते ।
तन्निर्णयाख्यञ्च फलमेकमेव तयोर्यतः ॥
विषयैक्यं फलैक्यञ्च कर्मकाण्डेऽपि कारणम् ।
ऐकशास्त्र्यस्य धर्मा हि विषयस्तस्य निर्णयः ॥
फलञ्च तत्र वेदार्थः कृत्स्नो विषय इष्यते ।
तन्निर्णयः फलञ्चात्र तदैक्यादेकशास्त्रता ॥
अर्थभेदात्कर्तृभेदादन्योन्यञ्च विरोधतः ।
शास्त्रभेदप्रसङ्गश्चेन्नैवमत्र प्रसज्यते ॥
अध्यायपादषट्केषु प्रत्येकं भेद इष्यते ।
अवान्तरार्थभेदेन शास्त्रभेदावहो न सः ॥
धूर्तस्वामिकपर्दिभ्यां कृतयोर्व्याख्ययोर्द्वयोः ।
आपस्तम्बीयसूत्रार्थपरयोर्द्वैकशास्त्रता ॥
वैयाकरणवृत्त्यादौ भिन्नकर्तृकता तथा ।
दृष्टेति कर्तृभेदश्च न शास्त्रैक्यस्य बाधकः ॥
देवताविग्रहाद्यर्थनिषेधात्तत्समर्थनात् ।
विरुद्धार्थत्वमस्तीति यदुक्तं तन्न युज्यते ॥

कर्मस्वश्रुतवेदान्ताः श्रद्धावन्तो भवन्त्विति ।
तथा जैमिनिराचार्यो विग्रहादि निरस्यति ॥

एवमन्यपरोक्त्यापि मा भून्मन्दधियां अमः ।
इति कचिन्निराचक्रे जैमिनिं बादरायणः ॥

बादरायणसूत्रेषु बहुशश्चास्ति जैमिनेः ।
त्रय्यन्तार्थप्रतिष्ठार्थं साक्षित्वेन परिग्रहः ॥

नन्वनन्यपरैवेयं जैमिनेरुक्तिरिष्यते ।
द्रव्यदैवतसामान्ये द्रव्यप्राबल्यसाधिका ॥

न चायमतिवादस्स्यादनुष्ठानविरोधतः ।
हविःप्राधान्यतस्सर्वे ह्यनुतिष्ठन्ति साधवः ॥

उच्यते तात्त्विकन्नात्र हविःप्राधान्यमीरितम् ।
किन्तु प्रातीतिकं, तच्च प्राथम्येन प्रतीतता ॥

प्रत्यक्षसिद्धं हि हविस्स्वरूपं देवता पुनः ।
शास्त्रैकवेद्या प्राथम्यं प्रत्यक्षस्यैव वस्तुनः ॥

अस्ति प्रतीतौ शास्त्रन्तु पश्चादेवावबोधकम् ।
अर्थस्य सन्निकर्षो हि बलीयस्त्वनिबन्धनम् ॥

श्रुत्यादौ साधितस्तद्वदत्रापि हि भविष्यति ।
अतश्शास्त्रैकवेद्याया देवतायास्तु वास्तवम् ॥

प्रातीतिकादप्राधान्यात्प्राधान्यं न विहन्यते ।
ननु शास्त्रैकवेद्यत्वाद्धविषो न प्रधानता ॥

प्रातीतिकी हविष्टुं हि न प्रत्यक्षस्य गोचरः ।
 मैवं हविष्टुमात्रं हि शास्त्रवेद्यं तदाश्रयः ॥
 द्रव्यं प्रत्यक्षसिद्धत्वाच्च तु शास्त्रस्य गोचरः ।
 देवतात्वं देवतायास्त्वरूपमिति च द्वयम् ॥
 शास्त्रैकवेद्यमित्युक्तं हविःप्राधान्यमव्ययम् ।
 अतस्त्वरूपप्राधान्यं हविषो न विवक्षितम् ॥
 बोधायनस्तु भगवानैकशास्त्र्यमुदैरयत् ।
 ततश्चान्यपरैर्दोक्तिर्जैमिनेरिति निश्चितम् ॥
 तस्मान्नार्थविरोधोऽस्ति कर्मब्रह्मविचारयोः ।
 ऐकशास्त्र्यमतः कर्मब्रह्ममीमांसयोस्स्थितम् ॥

॥ इति वत्सकुलतिलकश्रीवरदगुरुविरचितायां श्रीभाष्यप्रमेयमालायामैकशास्त्र्यसमर्थनम् ॥

॥ अथ प्रपञ्चमिथ्यात्वभङ्गः ॥

नन्विदमैकशास्त्र्यं तत्प्रयुक्तं पौर्वापर्यञ्चानुपपन्नम्; शारीरकावसेयस्याखण्डैकरसचिन्मात्र-
 ब्रह्मगोचरस्य ज्ञानस्य अविद्याकल्पितकर्मकर्तृसाधनफलादिविविधभेदावलम्बिना कर्मविचारे-
 णानुपयोगात्, प्रत्युत विपरीतवासनोत्पादनद्वारेण विरोधाच्च । मिथ्याभूतस्य हि संसारस्य
 शुक्तिकारजतरज्जुसर्पादिरिवाधिष्ठानयाथात्म्यज्ञानमात्रमेव निर्वर्तकं युक्तम् । ब्रह्मव्यतिरिक्तस्य
 मिथ्यात्वमनुमानादिसिद्धम् । तथाहि—विवादपदं, मिथ्या, दृश्यत्वात्, शुक्तिकारूप्यव-
 दिति । श्रुतिश्च ‘नेह नानास्ति’ इत्यादिरिति ।

तदसत् ; दृश्यत्वहेतोरात्मन्यनैकान्त्यात् । कथम् ? ‘आत्मा वा अरे द्रष्टव्यः ,
 ‘दृश्यते त्वग्रथया बुद्ध्या’ इत्यादिश्रुतिभिः । ‘यत्तदद्रेश्यम्’ इत्यादिश्रुतिष्वात्मनो दृश्य-

त्वप्रतिषेधोऽपि प्रतीयत इति चेत्, न; तस्मिन्नेव वाक्ये 'परिपश्यन्ति धीराः' 'दृश्यते त्वग्रथया बुद्ध्या' इत्यादिषु दृश्यत्वविशेषविधानात्; दृश्यत्वनिषेधवचनस्य प्राकृतचक्षुरादिदृश्यतानिषेधपरत्वावगमाच्च । तथा च श्रुतिः 'न मांसचक्षुरभिवीक्षते तम्' 'न चक्षुषा गृह्यते नापि वाचा' 'न चक्षुषा पश्यति' इत्यादिका ।

यच्च आत्मा दृश्यो न भवति, आत्मत्वात्, यद् दृश्यं न तदात्मा, यथा घट इत्यात्मनो दृश्यत्वनिषेधानुमानम्; तदपि अग्नीषोमीयहिंसा न धर्मः, हिंसात्वात्, यथा ब्राह्मणहिंसादि, इत्यनुमानवदागमबाधितम् । किञ्च, घटो दृश्यो न भवति, घटत्वात्, यद् दृश्यं तदघटभूतं दृष्टम्; यथा पटादीत्यपि प्रसज्यते । इदं रजतमितिवत् घटस्सन्, पटस्सन्निति घटाद्यधिष्ठानतयाभ्युपगतस्य सन्मात्रस्यापि घटादिवद् दृश्यत्वस्यावर्जनीयत्वादनैकान्त्यं सुस्पष्टम् ।

विवादपदं मिथ्येति मिथ्यात्वं सत्यं उत मिथ्या? पूर्वत्र तेनैवानैकान्त्यम् । उत्तरत्र प्रपञ्चसत्यत्वसिद्धिः । अयमनुयोगो नित्यसमा जातिरिति चेत्, न; अधिष्ठानसंविदो मिथ्यात्ववादिनं माध्यमिकं प्रति मिथ्येत्युक्तिर्मिथ्येति भवता साधितत्वात्, तेन च भवत्संवित्तेरबाधितत्वाच्च । लोकेऽप्यपवरके घटोऽस्तीत्युक्तवन्तं प्रति केनापि घटो नास्तीत्युक्ते पुनरपि नास्तीत्युक्तिर्मिथ्येति वचनं यथा घटसद्भावसाधकं भवति, तथा मिथ्यात्वस्य मिथ्यात्वे प्रपञ्चस्य सत्यत्वसिद्धिः । न चात्र जातित्वम्; स्वव्याघाताभावात् । तर्हि नित्यसमायाः को विषयः? सत्यत्वस्य सत्यत्वासत्यत्वविकल्पेन, नित्यत्वादेश्च नित्यत्वानित्यत्वविकल्पेन दूषणम् । सत्यत्वनित्यत्वादेः प्रमाणसिद्धस्य स्वपरनिर्वाहादिरक्षितत्वात् तद्विकल्पे नित्यसमा; तर्काङ्गपञ्चकान्यतमहीनत्वादिति । दृश्यत्वानुमानं प्रत्यक्षानुमानागमैः प्रतिपन्नस्य सत्यस्य प्रपञ्चस्य मिथ्यात्वसाधनाद्धर्मिग्राहकप्रमाणविरुद्धञ्च । एवमनुमानान्तरेष्वपि दूषणमृह्यम् । एवं 'नेह नानास्ति' इत्यादिनिषेधवाक्यानामपि तत्तद्धर्मिग्राहकप्रमाणाविरोधेन स्वतन्त्रभेदनिषेधपरत्वं तत्तत्प्रकरणादिभिरवसितम् ॥

॥ इति वत्सकुलतिलकश्रीवरदगुरुविरचितायां श्रीभाष्यप्रमेयमालायां प्रपञ्चमिथ्यात्वभङ्गः ॥

॥ अथ भेददूषणनिस्तारः ॥



यत्तु भेदमिथ्यात्ववादिभिरुक्तम्—प्रमाणतः स्वरूपतश्च दुर्निरूपत्वाद्भेदो न सम्भवति । तथाहि—प्रत्यक्षं तावद्भेदग्राहकं भेदवादिभिरिष्यते । तत्र किं प्रत्यक्षकृत्यं स्वरूपग्रहणं भेदग्रहणञ्चैकम् ? उत भिन्नम् ? भिन्नत्वे च प्रत्यक्षं किं स्वरूपग्राहि ? उत भेदग्राहि ? अथ उभयग्राहि ? उभयग्राहित्वे च युगपत्किम् ? क्रमेण वा ? न तावत् स्वरूपभेदग्रहणैक्यम् ; प्रतियोगिनिरपेक्षत्वसापेक्षत्वलक्षणविरुद्धधर्माध्यासात् । भिन्नत्वपक्षे च स्वरूपमात्रग्राहित्वे भेदग्राहित्वं प्रत्यक्षस्य न स्यात् । भेदमात्रग्राहित्वन्तु न सम्भवति ; स्वरूपग्रहणसापेक्षत्वाद्भेदग्रहणस्य । उभयग्राहित्वेऽपि यौगपद्यन्न सम्भवति । स्वरूपग्रहणप्रतियोगिस्सरणसापेक्षत्वाद्भेदग्रहणस्य, तन्निरपेक्षत्वाच्च स्वरूपग्रहणस्य । प्रत्यक्षज्ञानस्य क्षणिकत्वात्क्रमेणोभयग्राहित्वञ्च न सम्भवति । अतो न भेदः प्रत्यक्षविषयः । तदुक्तं संवित्सिद्धौ—

“ यौगपद्यक्रमायोगाद्ब्रह्मवच्छेदविधानयोः ।

ऐक्यायोगाच्च भेदो न प्रत्यक्षज्ञानगोचरः ॥”^१

इति । भेदग्रहणमत्र व्यवच्छेद इत्युच्यते, स्वरूपग्रहणं तु विधानमिति । अत एव च न प्रमाणान्तरविषयत्वं भेदस्य । अतो भेदः प्रमाणतो दुर्निरूपः ; तथा स्वरूपतश्च । तथाहि—किं भेदो वस्तुनस्वरूपम् ? उत धर्मः ? न तावत्स्वरूपम् ; स्वरूपभेदगोचरयोः घटः भिन्नः इति शब्दयोः हस्तः करः इतिवत् पर्यायत्वप्रसङ्गात् । किञ्च भेदस्य प्रतियोगिसापेक्षत्वात्, तन्निरपेक्षत्वाच्च स्वरूपस्य न स्वरूपं भेदः । ननु भेदस्य न प्रतियोगिसापेक्षत्वम् ; स्वरूपस्यैव भेदत्वेन प्रतियोगिनिरपेक्षस्वरूपग्रहणेनैव भेदस्य गृहीतत्वात् । अयमस्माद्भिन्न इति भेदव्यवहारे तु प्रतियोगिसापेक्षत्वम् ; न ग्रहणे । नैवम् ; यदि भिन्न इति व्यवहारः स्वरूपविषयः, तदा तस्यापि प्रतियोगिसापेक्षत्वं स्यात्, घट इति व्यवहारवत् । यथा घट इति व्यवहारः स्वरूपविषयः न प्रतियोगिसापेक्षः, भेदव्यवहारोऽपि तथैव स्यात् । अपि च स्वरूपस्य भेदत्वे स्वरूपे

१. ‘ प्रत्यक्ष इति यो अमः ’ इति चतुर्थपादः संवित्सिद्धौ दृश्यते.

भिन्न इति व्यवहारो न स्यात् । भिन्नो हि भेदयोगी । अथ स्वरूपान्तराभ्युपगमेन भिन्न इति व्यपदेशोपपत्तिः, तर्हि तस्यापि स्वरूपान्तरापेक्षया अनवस्था स्यात् । नामान्तरेण धर्म-पक्षाङ्गीकारश्च । किञ्च स्वरूपं किमनुवृत्तं व्यावृत्तं वा ? अनुवृत्तत्वे भेदत्वहानिः । व्यावृत्त-त्वे स्वरूपं स्वरूपमिति अनुवृत्तप्रयोगो न स्यात् । नापि स्वरूपविशेषो भेद इति वक्तुं शक्यम् । तत्र किं स्वरूपमेव विशेषः ? स्वरूपस्य विशेषो वेति विवेचनीयम् । आवे प्रागुक्ता दोषास्त्युः । द्वितीये धर्मभेदपक्षस्वीकारस्स्यात् । अतो न स्वरूपं भेदः । नापि धर्मः । स किं स्वरूपाद्भिन्नः ? उताभिन्नः ? अभिन्नत्वे स्वरूपभेदपक्षाङ्गीकारस्स्यात् । भिन्नत्वे च तस्यापि भेदस्तद्धर्मस्तस्यापीत्यनवस्था । किञ्च धर्मप्रतियोगिज्ञाने सति भेदग्रहणम्, भेद-ग्रहणे सति तयोर्धर्मितया प्रतियोगितया च ज्ञानमित्यन्योन्याश्रयणं स्यात् । न ह्येकमेव वस्तु एकापेक्षया धर्मितया प्रतियोगितया च प्रत्येतुं शक्यते । अन्यच्चान्योन्याश्रयणम् ; जात्यादि-धर्माणां धर्मिणश्च धर्मधर्मिभावग्रहणे सति भेदग्रहणम्, भेदग्रहणे सति धर्मधर्मिभावग्रहण-मिति । न खल्वेकस्यैव स्वात्मानं प्रति धर्मधर्मितया प्रतिपत्तिस्सम्भवति । अतस्सन्मात्रस्यैव ग्राहकं प्रत्यक्षम् ; न भेदग्राहीति ।

अत्र प्रतिविधिः — इदं तावद्भेदापलापिनं प्रति पृच्छामः — किं भवान् भेदप्रतीत्य-भावं ब्रूते ? उत प्रतीतेरकारणत्वम् ? अनिरूपितकारणत्वं वा ? आहोस्विन्निविषयत्तम् ? बाध्य-विषयत्वं वेति ? न तावदाद्यः कल्प कल्पने ; स्वपक्षपरपक्षदूषणादिसमस्तभेदव्यवहारोच्छेद-प्रसङ्गात्, वेदान्ततत्त्वज्ञाननिवर्त्याभावेन सर्ववेदान्तानारम्भप्रसङ्गाच्च । अतो भवतापि भेदप्रतीतिरवश्याभ्युपगन्तव्या । भवदभ्युपगमश्च तथैव । द्वितीयेऽपि सिद्धायाः प्रतीतेरका-रणत्वं किं तस्यास्सिद्धिविरोधि वा ? न वा ? नो चेन्न नः क्षतिः । विरोधि चेत् प्रतीतेस्सिद्ध-त्वादेव स्वसिद्धिविरोधपरिहाराय स्वकारणं स्वयमेव कल्पयति । कार्यं हि प्रतीतं कारणकल्प-नायां प्रमाणम् । न पुनस्फुटावधारितं कार्यं कारणनिरूपणायापह्नवमर्हति । तथा च संवित्सिद्धौ—

“ सत्यं प्रतीतिरस्त्यस्या मूलं नास्तीति चेन्न तत् ।

सा चेदस्ति तथा मूलं कल्प्यतां कार्यभूतया ॥”

इति । नापि तृतीयः ; कार्यविशेषेणैव तदनुगुणकारणविशेषस्य निरूपितत्वात् । तदप्युक्तं संवित्सिद्धौ—

‘ क्लृप्तं चेन्द्रियलिङ्गादि तद्भावानुविधानतः ’

इति । चतुर्थश्च न सम्भवति ; स्वपक्षपरपक्षसाधनदृषणादिभेदप्रतीतेरपि निर्विषयत्व-प्रसङ्गात् । तथा च सति स्वोभिमतासिद्ध्या भेदोऽप्रतिपक्षस्त्यात् । नापि पञ्चमः ; समस्त-भेदबाध्यत्वे तद्वेतुभूतप्रतीतेरपि बाध्यविषयत्वेन भेदापलापासिद्धेः । किञ्च, तर्केण हि भवतो भेदापलापः । तर्कस्य च व्याप्त्यपेक्षया व्याप्तिग्राहकप्रत्यक्षादिप्रमाणमूलत्वमवश्या-श्रयणायम् । अतस्तर्कः स्वमूलबाधाय न भवति ; स्वमूलबाधे स्वात्मलाभासिद्धेः । तर्कस्य प्रमाणानुग्राहकतया तदङ्गत्वात्तेन स्वानुग्राह्यप्रधानबाधश्च न सम्भवति । सूत्रितञ्च—‘ तर्का-प्रतिष्ठानादपि ’ इति । अतोऽवश्यं भवतापि भेदोऽभ्युपगन्तव्यः ।

यत्तु प्रमाणतस्त्वरूपतश्च दुर्निरूपत्वाद्भेदो न सम्भवतीत्युक्तम्, तदयुक्तम् ; जात्यादि-विशिष्टस्यैव वस्तुनः प्रत्यक्षविषयत्वात् ; जात्यादेरेव प्रतियोग्यपेक्षया वस्तुनः स्वस्य च भेदव्यवहाराच्च । तथा हि—जात्यादिविशिष्टमेव वस्तु प्रत्यक्षेण प्रतीयते । तत्र विशेषणविशेष्ययोर्द्वयोरपि योग्यत्वाद्युपपदेव ग्रहणम् । भेदशब्देऽपि प्रयुज्यमाने तस्य पुत्रादि-शब्दस्येव प्रतिसम्बन्धिनिरूपिताकारे व्युत्पन्नत्वात्प्रतियोग्यपेक्षेति न कश्चिद्दोषः । अत एवा-न्योन्याश्रयादिकमपि परिहृतम् । पर्यायत्वप्रसङ्गस्तु स्वरूपशब्दवत्परिहार्यः । तद्वदेव प्रति-योगिषापेक्षत्वनिरपेक्षत्ववैषम्यमपि दत्तोत्तरम् । व्यावृत्तव्यवहारे तु हेतुत्वाविशेषात्स्वरूपस्यापि भेदशब्दार्थत्वे न दोषः । तत्र भिन्न इति व्यवहारो धर्मभेदोल्लेखेन, व्यावृत्तव्यव-हारहेतुत्वमात्रेण वा स्यात् । स्वरूपस्य व्यावृत्तत्वेऽप्यनुवृत्तोपाधुपलक्षिताकारे स्वरूपशब्दस्य वृत्तेरनुवृत्तप्रयोगोपपत्तिः । धर्मपक्षेऽनवस्था तु संविदादिवत्स्वपरनिर्वाहेण परिहृता । अतः प्रत्यक्षसिद्धस्य भेदस्य प्रमाणतः स्वरूपतो न कश्चिद्दोष इति ॥

॥ इति वत्सकुलतिलकश्रीवरदगुरुविरचितायां श्रीभाष्यप्रमेयमालायां भेददृषणनिस्तारः ॥

॥ अथ भावान्तराभावसमर्थनम् ॥



यत्तु भेदस्यान्योन्याभावरूपत्वात्तस्य च षष्ठप्रमाणवेद्यत्वान्न प्रत्यक्षत्वमित्याहुः । तदसत् ; अभावाख्यपदार्थान्तराभ्युपगमेऽपि प्रतिपत्त्यापरोक्ष्यादिभिस्तस्य प्रत्यक्षग्राह्यत्व-
सिद्धेः । भावान्तरमेवाभावमभिदध्महे ; अतिरिक्तस्यानुपलम्भादनुपपत्तेश्च । ननु अघटं भूतल-
मित्यादिव्यवहारो भूतलाद्यतिरिक्तार्थनिबन्धनः ; विशिष्टव्यवहारत्वात् , यदित्थं तदित्थम् ,
यथा घटघटितं भूतलमिति व्यवहार इत्यतिरिक्तसिद्धिरिति चेत् । अत्रोच्यते—प्रतियोगिबुद्धौ
वस्तुधीरेवोपेता नास्तीतिव्यवहारहेतुरिति । तत्रातिरिक्तार्थस्तु तत्प्रतियोगिरूपो वा ?
तदन्यो वा कश्चिद् भूतलादिविशेषः ? तदन्यो वा ? तत्राद्ययोस्सिद्धसाधनता ; प्रतियोगिनो
घटादेः विशेषस्य च प्राङ्गणत्वादेरस्माकमपि सिद्धत्वात् । तदुक्तम्—‘प्रतियोगिबुद्धौ वस्तु-
विशेषधीरेवोपेता’ इति । न तृतीयः ; प्रमाणाभावात् । विशिष्टव्यवहारस्य त्वदभ्युपेतया प्रति-
योगिबुद्धिपूर्वकवस्तुधियैवोपपादितत्वात् , भवदभिमतार्थावगमकत्वाच्च । ननु घटोऽस्तीति विशि-
ष्टव्यवहारेऽपि तथात्वमापद्येत । तथा च प्रामाणिकार्थपरित्यागः स्यादिति चेत् , तन्न ; भूतलादि-
विशेषव्यतिरिक्तप्रतियोगिरूपार्थान्तराभावेन घटोऽस्तीति विशिष्टव्यवहारासिद्धेः । अभावरूप-
प्रतियोग्यभ्युपगमे तत्प्रतियोगिभावाभ्युपगमापातात्तमन्तरेण तदनिरूपणात् । स्वरूपेण निरूपणे
भावत्वापाताच्च । तथा च लाघवाद्भाव एवास्तु ; एतेनैव तद्व्यवहारसिद्धेः । यत्र कुत्र-
चित्सिद्धे भावरूपे प्रतियोगिनि तत्र तद्व्यवहारस्य तद्वत्तया दर्शनादन्यत्रापि तथैव कल्पनीय-
मिति प्रकृतेऽपि तथाभ्युपेयम् । नास्तीतिव्यवहारहेतुभूतदेशादिविशेषप्रतियोगिकेतर-
देशादिविशेष एवास्तीतिव्यवहारहेतुरिति चेन्न ; अन्योन्याश्रयणात् । अस्तिव्यवहारहेतु-
विशेषसिद्धौ नास्तिव्यवहारहेतुविशेषसिद्धिः ; तस्सिद्धौ चास्तीतिव्यवहारहेतुविशेषसिद्धिरिति ।
वस्तुमात्रविवक्षायां सर्वत्र सर्वव्यवहारप्रसङ्गः ।

किञ्च नास्तिव्यवहारहेतुधियमन्तरेण अत्र घटोऽस्तीति व्यवहारदर्शने सर्वैरभ्युपेते ।
न हि पित्रादिवत्केनचित्प्रतियोगिना घटादिर्निरूप्यते । न च सर्वोऽपि भावो भवता शक्य-

निहवः; निहवहेतुभूतविशिष्टव्यवहारतदर्थयोरभावे निहवस्यैवाभावात् । निहवाभावे * च निहोतव्यमस्येव ।

ननु पिशाचादिप्रतियोगिबुद्धिपूर्वकप्राङ्गणत्वादिविशेषावगमेऽपि क्वचित्पिशाचाद्यभाव-
व्यवहारो न जायते । तत्र त्वभावनामा कश्चिदस्येव ; यद्वगमे नास्तीति व्यवहारः; यस्य चान-
वगमे न तद्व्यवहार इति । तन्न ; भावपक्षेऽपि समानत्वात् । देशादेः प्रत्यक्षत्वेऽपि पिशाचादि-
सम्बन्धस्य प्रमाणान्तरवेद्यत्वेन तदनवगमे न तद्व्यवहारः । देशादिविशेषधारेव भवतां नास्तीति-
व्यवहारहेतुरिति चेत् ; तन्न ; तत्प्रतियोगिप्राहकप्राङ्गणविविशेषविशिष्टत्वेन देशादेरभ्युपगमा-
त्तथान्यत्र क्लृप्तत्वाच्च । तद्वदेव तदस्तिताव्यवहारोऽपि भविष्यतीति चेत् , न ; पिशा-
चादिसद्भावानभ्युपगमे तद्विशेषोपलम्भकप्रमाणाभावात् ; तद्विशेषोपलम्भमूलस्य विशेषस्यैवा-
सिद्धेस्तदस्तीति व्यवहारस्यानुपपन्नत्वात् ; तत्सिद्धौ तदतिरिक्तविशेषकल्पनागौरवाच्च । ताव-
न्मात्रेण च तत्रास्तीत्यादिव्यवहारोपपत्तेः । विशिष्टव्यवहारस्य च भूतलातिरिक्ततद्गतघटादि-
विशेषव्याप्तस्य पक्षस्य तदभावेऽभ्युपगते सर्वानुमानभङ्गप्रसङ्ग इति चेत् , न ; द्रव्यत्वानुष्णत्व-
वदुपपत्तेः । द्रव्यत्वविशेषप्रयुक्तमनुष्णत्वम् ; न तु द्रव्यत्वमात्रप्रयुक्तमिति हि तत्र निर्णयः ।
अत्रापि विशिष्टव्यवहारविशेषप्रयुक्तं देहल्यादिविशेषातिरिक्तघटादिविशिष्टत्वम् ; न तु विशि-
ष्टव्यवहारमात्रप्रयुक्तमिति सन्तोष्यम् । तदेतत्सर्वमभिहितम्—‘प्रतियोगिबुद्धौ वस्तुधारे-
वोपेता नास्तीति व्यवहारहेतुः’ इति । एवञ्च भावान्तरस्यैवाभावत्वात्तस्य प्रत्यक्षयोग्यत्वा-
द्भेदोऽपि प्रत्यक्ष इति स्थितम् ॥

॥ इति वत्सकु गतिलकश्रीवरदगुरुविरचितायां श्रीभाष्यप्रमेयमालायां
भावान्तराभावसमर्थनम् ॥

॥ अथ अखण्डवाक्यार्थभङ्गः ॥

यत्तु समानाधिकरणपदसमुदायात्मकानामखण्डैकरसप्रतिपादकत्वमाचक्षते, तदपि मन्दम् ; वाक्यान्तरवत्तेषामपि विशिष्टविषयत्वावश्यम्भावात् । इह खलु भगवता पतञ्जलिना महामाष्ये ‘लटश्शतृशानचावप्रथमासमानाधिकरणे’ इत्येतत्सूत्रार्थविवरणावसरे सामानाधिकरण्यलक्षणमुक्तम्—‘भिन्नप्रवृत्तिनिमित्तानां शब्दानामेकस्मिन्नर्थे वृत्तिस्सामानाधिकरण्यम्’ इति । अस्यार्थः—प्रवृत्तेर्निमित्तं प्रवृत्तिनिमित्तम् । प्रकृष्टा वृत्तिः प्रवृत्तिः ; शब्दस्यार्थे वृत्तिर्नाम तद्बोधनम् । तत्र विशेष्यभूतप्रधानार्थविषया वृत्तिः प्रवृत्तिः ; तस्याः प्रवृत्तेर्निमित्तं द्वारम् । तच्च विशेषणभूतं जातिगुणादिकम् । समानं—एकं ; अधिकरणं—विशेषणानामाधारभूतं विशेष्यम् ; एकस्मिन्नर्थे वृत्तिरित्येकशब्देन समानशब्दो व्याख्यातः । अर्थशब्दश्च विशेष्यभूतप्रधानाभिधेयपरः । एतदुक्तं भवति—त्रिविधाश्शब्दाः केचिद्विशेषणतो विशेष्यतश्चैकार्थाः ; यथा ‘घटः कुंभः, नीलं कृष्णम्’ इत्यादयः । केचिच्चोभयतश्च भिन्नार्थाः ; यथा—‘गौरजो महिषः, नोलं शुक्लं पीतम्’ इत्यादयः । केचिच्च विशेषणतो भिन्नार्था विशेष्यतश्चैकार्थाः ; यथा ‘नीलमुत्पलम्’, ‘देवदत्तश्श्यामो युवा लोहिताक्षः’ इत्यादयः । तत्र पूर्वकोटिद्वयव्यावृत्ततृतीयकोटिनिविष्टानां शब्दानां सामानाधिकरण्यमिति ‘भिन्नप्रवृत्तिनिमित्तानां शब्दानाम्’ इत्यादिवाक्येन प्रतिपाद्यते । तत्र ‘भिन्नप्रवृत्तिनिमित्तानाम्’ इत्यनेन विशेषणतो विशेष्यतश्चैकार्थानां नीलं कृष्णमित्यादीनां न सामानाधिकरण्यमित्युच्यते । एकस्मिन्नर्थे वृत्तिरित्यनेन चोभयतो भिन्नार्थानां ‘गौरजो महिषः’ इत्यादीनां न सामानाधिकरण्यमित्युच्यते । तस्माद्विशेषणतो भिन्नार्थानां विशेष्यतश्चैकार्थानां नीलमुत्पलमित्यादीनामेव सामानाधिकरण्यमिति । तत्र प्रवृत्तिनिमित्तशब्दयोरेवं वार्थः—प्रवृत्तिः—अभिधानम् ; तस्य निमित्तं—अभिधेयम् । अर्थशब्दश्च अभिधेयवचनः । भिन्नाभिधेयानां शब्दानामेकस्मिन्नभिधेये प्रवृत्तिस्सामानाधिकरण्यम् । भिन्नविशेषणानां शब्दानामेकस्मिन्विशेष्ये वृत्तिस्सामानाधिकरण्यमित्युक्तं भवति । भिन्नपदसामर्थ्येन निमित्तशब्दनिर्दिष्टं विशेषणभूतमभिधेयमेकशब्दसामर्थ्येन चार्थशब्दनिर्दिष्टं विशेष्यभूतमभिधेयमित्यवगम्यते । अतश्चोभयथाप्यनेकविशेषणाभिधायिनां शब्दाना-

मेकस्मिन्विशेष्ये पर्यवसानं सामानाधिकरण्यमिति ‘ भिन्नप्रवृत्तिनिमित्तानां शब्दानाम् ’
इत्यादिसामानाधिकरण्यलक्षणवाक्येनोक्तं भवति ॥

ननु सामानाधिकरण्यस्य तावदेकार्थत्वमविगीतम् । तत्र सामानाधिकरणानि सत्यादि-
पदानि किं सत्यत्वादिविशेषणमात्रपराणि ? उत तत्तद्विशेषणविशिष्टपराणि ? अथ स्वरूपमात्र-
पराणीति विवेचनीयम् । न तावद्विशेषणमात्रपराणि ; विशेषणानामनेकत्वादेकार्थत्वासिद्धेः । नापि
विशिष्टपराणि ; विकल्पासहत्वात् । किं क्रमेण युगपद्वा विशिष्टार्थप्रतिपादनम् पदानाम् ? न
तावत्क्रमेण ; विशेषणानामन्योन्यसमवायप्रसङ्गात् । प्रथममेकेन विशेषणेन विशिष्टतया-
वगतस्य वस्तुनः पश्चाद्विशेषणान्तरविशिष्टतयावबोधनं हि क्रमेण प्रतिपादनम् । तत्र
विशिष्टं प्रति विशेषणतयान्वीयमानं पूर्वविशेषणस्यापि विशेषणं भवतीति विशेषणाना-
मन्योन्यविशेषणविशेष्यभावप्रसङ्गो दुर्वारः । अवर्जनीयञ्च पदानां क्रमेणार्थप्रतिपादनम् । कुतः ?
उद्देश्योपादेयविभागवत्त्वात्सर्ववाक्यानाम् । नापि युगपत् ; उद्देश्योपादेयविभागहानिप्रसङ्गेन
युगपत्प्रतिपादनासम्भवात् । सम्भवे विशेषणानां परस्परैक्यप्रसङ्गाच्च । तथाहि—प्रातिपदि-
कानां विशिष्टार्थपरत्वे प्रातिपदिकार्थैक्यपरस्य समानविभक्तिनिर्देशस्य विशिष्टैक्यपरत्वमवश्या-
श्रयणोयमिति विशेष्यैक्यवद्विशेषणानामप्यैक्यं प्रतिपाद्यमापद्येत । किञ्च विशेषणानां व्यावर्त-
कत्वस्वाभाव्याद्विशेषणभेदेन विशेष्यभेदप्रसङ्गो दुर्वारः । तथाहि—भेदकं विशेषणम्, भेद्यं विशेष्य-
मिति विशेषणविशेष्ययोस्वरूपविवेकः । अतः पारिशेष्यात् सामानाधिकरणपदानां स्वरूपमात्र-
प्रतिपादनपरत्वमास्थेयम् । एवं तर्हि पदानां पर्यायत्वं, एकेनैव पदेन स्वरूपं प्रतिपन्नमिति
पदान्तरप्रयोगवैयर्थ्यं, प्रवृत्तिनिमित्तभेदाभावेन सामानाधिकरण्यलक्षणहानिश्च प्रसज्यते ।
नैवम् ; एकस्यैवार्थस्य तत्तत्पदार्थविरोधिप्रत्यनीकपरत्वेन पदानामपर्यायत्वमर्थवत्त्वं, तत्
एव निमित्तभेदलाभात्सामानाधिकरण्यलक्षणसिद्धिश्च । तथाहि—विकारास्पदजडपरि-
च्छिन्नस्वरूपस्य कृत्स्नस्य जगतः कारणतयावगतस्य ब्रह्मणः कार्यगतविकारास्पदत्वजडत्व-
परिच्छिन्नत्वशङ्कायां तद्व्युदासार्थं सत्यादिशोधकवाक्यं प्रवर्तते । तत्र सत्यपदं ब्रह्मणो विका-
रास्पदत्वशङ्कां निवर्तयति ; ज्ञानपदं जडत्वशङ्कां, अनन्तपदञ्च परिच्छिन्नत्वप्रसक्तिम् । न
चैतावता ब्रह्मणस्तत्तद्व्यावृत्तिरूपधर्मवत्त्वप्रसङ्गः ; ब्रह्मस्वरूपस्यैव सकलेतरव्यावृत्तिरूपत्वात् ।
यथा शौक्यादेः काष्ण्यादिव्यावृत्तिस्तत्तत्पदार्थस्वरूपमेव ; न धर्मान्तरम् ; धर्मान्तरानुप-

लम्भात् । तदभ्युपगमेऽनवस्थानाच्च । अतः काष्ण्यव्यावृत्तं रक्तिमव्यावृत्तं पीतिमव्यावृत्तं शौक्ल्यमिति पदानां शौक्ल्यस्वरूपमात्रविषयाणां व्यावर्त्यभेदेन यथा न पर्यायत्वमर्थवत्त्वमेकार्थत्वञ्च, तथा सत्यादिपदानां ब्रह्मस्वरूपमात्रविषयाणामप्यसत्यादिव्यावर्त्यभेदेन न पर्यायत्वादि-
दोषप्रसक्तिः ।

नन्वेवं सत्यत्वादिगुणविशिष्टवस्तुवाचिनां सत्यादिपदानां तत्तद्गुणपरित्यागेन तत्तद्विरोधिव्यावृत्तस्वरूपमात्रपरत्वे लक्षणा स्यात् । मैवम्—अवाच्योपस्थापने हि पदानां लक्षणा । यथा ‘गङ्गायां घोषः प्रतिवसति’ इत्यत्र गङ्गापदस्य कूलोपस्थापने । न हि कूलं गङ्गापदवाच्यम् । अत्र तु सत्यादिपदानां वाच्यैकदेशभूतविशेषणपरित्यागेऽपि वाच्ये प्रधानांशभूतविशेष्यस्वरूपप्रतिपादनाच्च लक्षणाप्रसङ्गः । तथापि विशिष्टवाचिनश्शब्दस्य विशेष्य-
मात्रपरत्वे स्वारस्यभङ्गः प्रसज्यत इति चेत्, नैष दोषः । समानाधिकरणवाक्येष्वेकार्थपरत्व-
बलाद्विशेषणपरित्यागेन स्वरूपमात्रपरत्वमेव पदानां स्वारसिकम् । व्यधिकरणवाक्येष्वेव हि पदानां विशिष्टपरता स्वारसिकी । भवतु वा लक्षणा पदानाम् ; तथापि न दोषः ; वाक्य-
तात्पर्यानुगुणा हि लक्षणा तद्विरोधिमुख्यवृत्तेर्बलीयसी दृष्टा ; यथा गङ्गापदे । सामानाधि-
करण्यस्य ह्यैक्य एव तात्पर्यमिति सर्वसम्मतम् ।

ननु सर्वपदानां लक्षणा न दृष्टचरी, अयुक्ता च । कैश्चित्पदैः वाक्यतात्पर्यनिश्चये सत्येव हि तदानुगुण्येन पदान्तरलक्षणा । केन पदेन वाक्यतात्पर्यं निश्चित्य सर्वपदलक्षणा स्वीक्रियते ?

उच्यते—दृष्टा तावत् ‘विषं भुङ्क्ष्व’ इत्यादिषु सर्वपदलक्षणा । तत्र हि विषपदं निषिद्धभोज्यं लक्षयति । भुङ्क्ष्वेति भोजननिवृत्तिम् । तत्र योग्यतादिवशाद्वाक्यतात्पर्यनिश्चयः । सत्यादिवाक्येषु तु समानाधिकरणेषु समानविभक्तिबलादैक्यतात्पर्यनिश्चयः । तदविरोधाय प्रातिपदिकानां तु सर्वेषां लक्षणा स्वीक्रियते । एकपदलक्षणायामपि वाक्यतात्पर्यविरोध एव हेतुः । यथा गङ्गायां घोष इत्यादिषु । तदविरोधे त्वेकस्यापि पदस्य लक्षणा न दृष्टा । यथा ‘गङ्गायां मत्स्याः प्रतिवसन्ति’ इत्यादिषु । अतो वाक्यतात्पर्याविरोधाय एकस्येव सर्वपदानां लक्षणा न दोषाय । दृश्यते च विशेषणानां विशेष्यभेदकत्वम् । यथा खण्डो मुण्डः घटः पट इत्यादिषु ।

ननु 'नीलमुत्पलम्' 'देवदत्तः श्यामो युवा' इत्यादिषु विशेषणभेदेऽपि विशेष्यैक्यं दृश्यते । नैष दोषः । तत्र हि स्वतः प्राप्तं विशेषणानां विशेष्यभेदकत्वं प्रत्यक्षविरोधेनापोद्यते । प्रत्यक्षाद्यगोचरे तु ब्रह्मणि विशेषणभेदप्रयुक्तो विशेष्यभेदः केन वार्यते ? तस्मात्सत्यादिवाक्यमखण्डैकरसमेव ब्रह्म प्रतिपादयतीति ॥

अत्र प्रतिविधीयते—सत्यादिवाक्यं सत्यत्वादिगुणविशिष्टमेव ब्रह्म प्रतिपादयति । 'नीलमुत्पलम्' इत्यादिषु समानाधिकरणवाक्येषु अनेकविशेषणविशिष्टैकार्थपरत्वव्युत्पत्तेः । सत्यादिवाक्यस्य समानाधिकरणत्वाच्च । तथा च सामानाधिकरण्यलक्षणं 'भिन्नप्रवृत्ति-निमित्तानां' इत्यादिनोक्तं शार्वदकैरिति प्रदर्शितम् । तत्र यदुक्तं—सामानाधिकरण्यस्यैकार्थ-परत्वव्युत्पत्तरैकार्थ्यस्य च पदानां विशेषणमात्रपरत्वे विशिष्टपरत्वे चासिद्धेः स्वरूपमात्रैक्यपरत्वं सत्यादिसमानाधिकरणपदानामास्थेयमिति । तन्नोपपद्यते ; त्वदुक्तविकल्पदूषणयोः त्वत्पक्षेऽपि प्रसङ्गात् । तथाहि—सत्यादिपदानि किं विरोधिमात्रपराणि ? यद्वा स्वरूपमात्रपराणि ? किं वा विरोध्यवच्छिन्नस्वरूपपराणि ? न तावद्विरोधिमात्रपराणि ; तेषामनेकत्वेनैकार्थत्वासिद्धेः । नापि स्वरूपमात्रपराणि ; तथा सति पदानां पर्यायत्वप्रसङ्गात् ; एकेनैव पदेन स्वरूपं प्रतिपन्नमिति पदान्तरप्रयोगवैयर्थ्याच्च । नापि तदवच्छिन्नस्वरूपपराणि ; विकल्पासहत्वात् । किं वा विरोधिनां स्वरूपावच्छेदकत्वमुपलक्षणतया ? विशेषणतया वा ? न तावदाद्यः कल्पः ; एकेनोपलक्षणेन स्वरूपं प्रतिपन्नमिति उपलक्षणान्तरवैयर्थ्यात् । 'उपलक्ष्याद्बहिर्भूत उपलक्ष्य-प्रतीत्युपायो धर्म उपलक्षणम्' इति ह्युपलक्षणविदः । तथा च शाखादिषु दृश्यते । कथं तर्हि भवत्पक्षे जन्मादिबहूपलक्षणवत्वमेकस्यैव ब्रह्मणोऽभ्युपगम्यत इति चेत् । उच्यते—तत्र ह्युपलक्ष्यस्य धर्मिणो ब्रह्मण एकत्वेऽपि प्रत्युपलक्षणमुपलक्ष्यधर्मभेदोऽस्माभिरभ्युपगम्यते । अन्यथा तत्राप्यनेकोपलक्षणवैयर्थ्यं प्रसज्यत एव । त्वत्पक्षे त्वनेकोपलक्षणोपलक्ष्यधर्मभेदानभ्युपगमादुक्तदोषो दुर्वारः । तदभ्युपगमे हि ब्रह्मणस्सविशेषत्वप्रसङ्गः । नापि द्वितीयः ; विशेषणभूतानां विरोधिनामनेकत्वेनैकार्थत्वासिद्धेः । विशेष्यान्तर्भूतो विशेष्य-प्रतीत्युपायो धर्मो हि विशेषणम् । विशेष्यान्तर्भावो नाम ज्ञाप्यान्तर्भावः । विशेषणभूतार्थभेदेऽपि विशेष्यभूतप्रधानार्थैक्यादैकार्थ्यसिद्धिरिति चेत् , तत्सखण्डवाक्यार्थवादिनोऽपि समानम् । कस्तर्हि विशेष आवयोरिति चेत् , अयमेव विशेषः यदेकस्य मते पदानां लाक्षणिकत्वम् ; इतरस्य तु तेषां मुख्यत्वमिति ।

NYAYAPARISUDHI

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॥ श्रीः ॥

॥ श्रीमते हयवदनपरब्रह्मणे नमः ॥

॥ श्रीमते रामानुजाय नमः ॥



॥ श्रीमते निगमान्तमहादेशिकाय नमः ॥



श्रीमान् वेङ्कटनाथार्यः कवितार्किककेसरी ।

वेदान्ताचार्यवर्यो मे सन्निधत्तां सदा हृदि ॥



॥ न्यायपरिशुद्धिः ॥

॥ प्रत्यक्षाध्यायः ॥



पत्युस्संयमिनां प्रणम्य चरणौ तत्पादकोटीरयोः
संबन्धेन समिध्यमानविभवान् धन्यास्तथान्यान् गुरुन् ।

॥ श्रीः ॥

॥ श्रीमते निगमान्तमहादेशिकाय नमः ॥

वन्देऽद्वन्द्वं द्वन्द्वं श्रितपरतन्त्रं निदानमखिलानाम् ।

दशरथजनकापत्यं स्थिरवाणीमौलिभूषणं किमपि ॥

वकुलभूषणपादसरोरुहप्रवणमानससंयमिशेखरम् ।

कलयतो निगमान्तगुरोः पदे कृतधिये गुरवे करवै नमः ॥

श्रीश्रीनिवासयोगीन्द्रचरणाम्भोजमाश्रये ।

कटाक्षान्वीक्षते यस्य रक्षितुं सर्वरक्षकः ॥

लक्ष्मीकुमारतातयदेशिकवंश्येन कृष्णतातेन ।

न्यायपरिशुद्धिटीका क्रियते सन्न्यायदीपिकाभिख्या ॥

क्वाचार्थपादसूक्तिः क्व च मे स्थूला मितम्पचा बुद्धिः ।

श्रीसूक्तिभक्तिकलितं साहसमेतद् बुधोत्तमैस्सह्यम् ॥

प्रारिप्सितग्रन्थाविघ्नपरिसमाप्तिप्रचयगमनादिप्रयोजनाय विरचितं गुरुनमस्काररूपं मङ्गलं शिष्यशिक्षायै शिष्याणामनुषङ्गतो मङ्गलसिद्ध्ये च ग्रन्थतो निबध्नन् चिकीर्षितं प्रतिजानीते—पत्युरिति । यद्यपि मङ्गलविरहेऽपि नास्तिकादिग्रन्थेषु समाप्तिर्दृश्यत इति न समाप्तिं प्रति मङ्गलस्य कारणत्वं संभवति ; तथापि विघ्नध्वंसद्वारा क्वचित्प्रयोजकत्वमुपपद्यत एव ; समाप्तिप्रतिबन्धकदुरितविशेषरूपविघ्ननाशं प्रति मङ्गलस्य कारणत्वात् । स्मर्यते हि—

“ मङ्गलाचारयुक्तानां नित्यं च प्रयतात्मनाम् ।

जपतां जुह्वातां चैव विनिपातो न विद्यते ॥” इति ।

नास्तिकादिग्रन्थेषु तु स्वतस्सिद्धविघ्नविरहादेव समाप्त्युपपत्तिः । आस्तिकाग्रेसरैस्तु विघ्नशङ्कया कुग्रन्थत्वपरिहाराय च मङ्गलाचरणमित्यन्यत्र विस्तरः । तत्पादकोटीरयोः—संय-
मिपतिचरणमस्तकयोः । संबन्धेनेति । चरणसंबन्धः शिष्यप्रशिष्यत्वादिः ; मस्तकसंबन्धः
आचार्यप्राचार्यत्वादिः । समिध्यमानविभवान्—सम्यक्प्रकाशमानज्ञानादिसंपत्तीन् । शिष्य-
प्रशिष्यादीनां संयमिपत्युपदेशानुग्रहाधीना ज्ञानादिसंपत् । आचार्यप्राचार्यादीनां ज्ञानादि-
संपत्तिस्तु उक्तसंबन्धेन ज्ञाप्यमाना सती अधिकं प्रकाशत इति भावः । तथा च समिध्य-
मानेत्यनेनाभिवर्धमानत्वप्रकाशमानत्वान्यतरवत्त्वमेव विवक्षितम् । धन्यानिति । धनलभवत
इत्यर्थः । ‘ धनगणं लब्धा ’ इति यत्प्रत्ययः । तत्पादकोटीरयोः संबन्धेनेत्यनुषज्यते । धनं
पुरुषार्थसाधनं पुरुषार्थो वा । पुरुषार्थसाधनपरत्वे अभेदस्तृतीयार्थः । पुरुषार्थपरत्वे तु

शुद्धं संश्रितबादरायणतनोर्नारायणस्योक्तिभिः

श्रीमान् वेङ्कटनायकः स्थितिपदं निर्माति नीतेशुभम् ॥ १ ॥

जन्यत्वम् । पुरुषार्थश्च शिष्यादीनां मोक्षरूपः ; आचार्यादीनां भगवत्प्रीत्यतिशयरूपः ।
तथेति । उक्ताकारद्वयवत्तथेत्यर्थः । उक्ताकारद्वयरूपोत्कर्षानुसन्धानपूर्वकमिति यावत् ।
अन्यान् गुरून्, प्रणम्येत्यनुषङ्गेनान्वयः । संश्रितेत्यादि । संश्रिता-शक्तिविशेषेणाधिष्ठिता,
बादरायणतनुः—व्यासस्य तनुः, व्यासरूपा तनुर्वा येन तस्येति बहुव्रीहिः ।

“ सङ्कीर्णबुद्धयो देवा ब्रह्मरुद्रपुरस्सराः ।

शरण्यं शरणं जम्बुनारायणमनामयम् ॥

तैर्विज्ञापितकार्यस्तु भगवान्पुरुषोत्तमः ।

अवतीर्णो महायोगी सत्यवत्यां पराशरात् ॥

कृष्णद्वैपायनं व्यासं विद्धि नारायणं प्रभुम् ।

को ह्यन्यो भुवि मैत्रेय ! महाभारतकृद्भवेत् ॥”

इत्यादिकमिह भाव्यम् । उक्तिभिः । ब्रह्मसूत्रादिभिरिति भावः । शुद्धम्—श्रुत्याद्यविरुद्धम् ।
श्रुत्याद्यविरोधः ब्रह्मसूत्रादिसंवादादेव ज्ञायत इति । उक्तिभिरिति ज्ञापकहेतौ तृतीया ।
नीतेः । प्रमाणतत्परिकरतदनुग्राहकतर्करूपन्यायस्य—स्थितिपदं—मर्यादारक्षकं मर्यादालक्षण-
प्रतिपादकं वा ग्रन्थम् । ‘स्थानमर्यादयोः स्थितिः’ इति, ‘पदं व्यवसितत्राणस्थान-
लक्ष्माङ्गिर्वस्तुषु’ इति च नैषण्डुकाः । शुभं—श्रेयस्साधनम् । अत्र च गौतमोयन्याय-
विस्तरबहिष्कारपक्षे शुद्धमित्यनेन तद्व्यावृत्तिरभिप्रेता । तथा च गौतमोयन्यायविस्तरस्य
श्रुत्यादिविरुद्धतया तमनादृत्य श्रुत्याद्याविरुद्धमन्यं निर्मातीत्युक्तं भवति ।

अत्र पक्षे न्यायपरिशुद्धिरिति ग्रन्थनाम्ना परिशुद्धन्यायप्रतिपादकत्वं बोध्यते ।
न्यायस्य परिशुद्धिः यस्मिन्निति विग्रहवाक्यस्य यत्प्रतिपाद्यन्यायस्य परिशुद्धिरित्यर्थाङ्गीका-

विद्यास्थानेषु धर्म्येषु गण्यते न्यायविस्तरः ।

स च विप्लावितस्तैस्तैस्तनोऽत्र परिशोध्यते ॥ २ ॥

रात्तादृशार्थलामः । न्यायशब्देन च प्रमाणतत्परिकरादिकं विवक्षितम् । स्वीकारपक्षे तु नोतेः स्थितिपदं गौतमीयन्यायविस्तरं शुद्धं निर्माति श्रुत्याद्यविरुद्धार्थकतया करोतीत्यर्थः । ग्रन्थनाम्ना तु गौतमीयन्यायविस्तरस्य श्रुत्याद्यविरुद्धार्थकत्वप्रतिपादकत्वं बोध्यते । न्यायस्य गौतमीय-न्यायविस्तरस्य परिशुद्धिः यद्ग्रन्थप्रतिपाद्येति विग्रहवाक्यार्थाङ्गीकारात् । तृतीयपक्षेऽप्ययमेवान्वयक्रमः । परं तु शुद्धमित्यस्य विरुद्धार्थकसूत्रसंबन्धरहितमित्यर्थः । ग्रन्थनाम्नि परिशुद्धिशब्देनाप्ययमेवार्थो बोध्यते । ननु

“पुराणन्यायमीमांसाधर्मशास्त्राङ्गमिश्रिताः ।

वेदाः स्थानानि विद्यानां धर्मस्य च चतुर्दश ॥

अङ्गानि वेदाश्चत्वारो मोमांसा न्यायविस्तरः ।

पुराणं धर्मशास्त्रञ्च विद्या द्वेताश्चतुर्दश ॥”

इत्यादिभिः न्यायविस्तरस्यापि पुराणादिवत् धर्म्यत्वेन परिगणनात् कथं तस्य बहिष्कारसंभव-
तीत्यभिप्रायेण शङ्कते—विद्यास्थानेष्विति । पुरुषार्थसाधनज्ञानहेतुष्वित्यर्थः । यद्यपीत्यादिः ।
धर्म्येषु—धर्मादनपेतेषु ; धर्महेतुभूतवेदार्थनिर्णयप्रयोजकेष्विति यावत् । ‘धर्मपथ्यर्थन्याया-
दनपेते’ इति यत्प्रत्ययः । स चेति । तथापीत्यादिः । विप्लावितः—श्रुत्यादिविरुद्धार्थकतां
नीतः । तैस्तैः—कणादपक्षिलादिभिः । परिशोध्यत इति । परिशुद्धिप्रयोजकव्यापारः क्रियत
इत्यर्थः । अत्र परिशुद्धग्रन्थान्तरकरणस्यापि अधिकं त्वित्यादिन्यायेन विशेषणीभूतपरिशुद्धिप्रयोज-
कत्वानपायात्तत्सङ्ग्रहो बोध्यः । अयं भावः—पुराणन्यायेत्यादिषु न्यायशब्देन न्यायविस्तर-
शब्देन च वेदार्थनिर्णयोपयोगिप्रमाणादिप्रतिपादकग्रन्थस्यैव विवक्षिततया वेदविरुद्धार्थकस्य
बहिष्कारे न दोष इति । अङ्गीकारपक्षे तु बौद्धादिग्रन्थवत् श्रुत्यादिविरुद्धार्थकस्य गौतमीय-
न्यायविस्तरस्यात्यन्तबहिष्कार्यतया किमर्थं तच्छोधनमित्याशङ्कापरिहारकतया उक्तश्लोकावतारो

॥ गौतमसूत्रबहिष्कारपक्षः ॥

यद्यपि कथञ्चिदाक्षपादं सत्पक्षे निक्षेप्तुं शक्यम् ; न च कण-
भक्षपक्षनिक्षेपवत् क्लेशः ; नापि तत्कर्ता गौतमस्तामसेषु परि-
पठ्यते ; नापि च विप्रलम्भकत्वख्यातिः ; तथापि ब्रह्मसूत्रकारादि-
बहिष्कृतत्वान्नातीव वयमाद्रियामहे । न खल्वार्षत्वादिभिस्तदादरः ;
अतिप्रसङ्गात् ।

बोध्यः । तैस्तैरिति । न तु ग्रन्थकर्तुर्विरुद्धार्थतात्पर्यमिति भावः । तत इति । धर्मत्वाद्विष्णु-
वित्त्वाच्चेत्यर्थः । अत्र—असिन्ग्रन्थे । परिशोध्यत इति । श्रुत्याद्यविरुद्धार्थकतया व्याख्यायत
इत्यर्थः, न तु बहिष्क्रियत इति भावः ।

अविरोधेन व्याख्यानसंभवात् कुतो बहिष्क्रियत इति शङ्कते—यद्यपीति । कथञ्चिदिति ।
श्रुत्यादिविरुद्धार्थकतया भासमानानां सूत्राणां वक्ष्यमाणरोत्या अविरुद्धार्थकतया व्याख्याने-
नेत्यर्थः । आक्षपादम्—अक्षपादेन गौतमेन प्रोक्तं न्यायविस्तराख्यं शास्त्रम्—सत्पक्षे—श्रुत्याद्य-
विरुद्धपक्षे ; सतां वेदान्तिनां पक्षे वा । ननु तर्हि काणादादिपक्षस्यापि तथाङ्गीकारप्रसङ्ग
इत्यतस्तद्वैषम्यमाह—न चेति । कणभक्षः—कणादः । निक्षेपवत्—निक्षेपस्येव । ‘तत्र तस्येव’ इति
वतिः । क्लेश इति । अशक्यतेत्यर्थः । यथा वायुपरमाण्वाकाशनित्यत्वादिप्रतिपादकानां
‘अद्रव्यत्वेन नित्यत्वमुक्तम्’ ‘द्रव्यत्वनित्यत्वे वायुना व्याख्याते’ इत्यादिकणादसूत्राणां
श्रुत्याद्यविरुद्धार्थकरणमशक्यम्, तथा गौतमसूत्रस्य कस्यापि तादृशार्थकरणं नाशक्यम् ।
तामसेषु परिपठ्यत इति । शाक्यादय इवेति भावः । अनेन शाक्यादिपक्षवैषम्यमुक्तं भवति ।
विप्रलम्भकत्वख्यातिरिति । ‘त्वं हि रुद्र महाबाहो मोहशास्त्राणि कारय’ इत्यादिषु रुद्रादीनामिवेति
भावः । अनेन पाशुपतादिपक्षवैषम्यमुक्तं भवति । ब्रह्मसूत्रकारादीति । आदिना नाथ-
मुनिप्रभृतयः परिगृह्यन्ते । आर्षत्वादीत्यादिना प्राज्ञप्रणीतत्वप्राज्ञपरिगृहीतत्वादयो गृह्यन्ते ।
अतिप्रसङ्गादिति । चार्वाकमतप्रभृतीनामप्यादरणीयत्वप्रसङ्गादित्यर्थः ।

प्राज्ञानां प्रथमेनैव गुरुणा हि स्वयं पुरा ।

लोकायतमतं प्रोक्तं लोकविप्लवकारणम् ॥ ३ ॥

अथवा—पितामह एवात्र प्रमाणम् , य इन्द्रविरोचनयोश्चार्वा-
कमतमुपदिष्टवान् । तथा गौतमोऽपि संभाव्यते । अथापि—

तदेवोपपादयति—प्राज्ञानामिति । गुरुणा—बृहस्पतिना । लोकायतमतं—चार्वाकमतम् ।
प्रोक्तमिति । तथोक्तं हरिवंशे षड्विंशेऽध्याये—

“ एतेषां बुद्धिसंमोहमकरोद् बुद्धिसंमतः ।

नास्तिवादार्थशास्त्रं हि धर्मविद्वेषणं परम् ॥

परमं तर्कशास्त्राणामसतां तन्मनोरमम् ।

न हि धर्मप्रधानानां रोचते वै कथान्तरे ॥

ते तं बृहस्पतिकृतं शास्त्रं श्रुत्वाल्पचेतसः ।

पूर्वोक्तधर्मशास्त्राणामभवन् द्वेषिणस्तथा ॥

प्रचक्रुर्न्यायरहितं तन्मतं बहुमेनिरे ॥” इति ।

पितामहः—प्रजापतिः । अत्र—विप्रलिप्सया श्रुत्यादिविरुद्धार्थोपदेशे । चार्वाकमतमुपदिष्टवा-
निति । छान्दोग्ये अष्टमाध्याये स्पष्टमेतत् । संभाव्यत इति । विप्रलिप्सया शास्त्रप्रवर्तकत्व-
प्रतिपादकपुराणाद्यभावेऽपि श्रुत्यादिविरुद्धस्य इन्द्रियभौतिकत्वादेः प्रतिपादनाद्भ्रमप्रमादशक्त्य-
भावनिश्चयाच्च तथा संभाव्यत इति भावः । संभावना—उत्कटैकतरकोटिकस्संशयः । वक्ष्य-
माणरीत्या अविरुद्धार्थपरतया व्याख्यानसंभवात् निश्चीयते इति नोक्तम् । शङ्कते—अथापीति ।

“ काणादशाक्यपाषण्डैस्त्रयीधर्मो विलोपितः ।
त्रिदण्डधारिणा पूर्व विष्णुना रक्षिता त्रयी ॥”

इति स्मृतेः,

“ बहवः पुरुषा राजन् सांख्ययोगविचारिणः ।
नैत इच्छन्ति पुरुषमेकं कुरुकुलोद्भव ! ॥
समासेन तु तद्व्यासः पुरुषैकात्म्यमुक्तवान् ॥”

इति महाभारतोक्तेश्च युक्तं तत्तद्विहिष्कारः । इह तु न तथेति चेन्न;

काणादेति । काणादाः—काणादमतानुयायिनः वैशेषिकाः । शाक्याः—बौद्धाः । पाषण्डाः
शैवादयः । त्रयीधर्मो विलोपित इति । ननु वैशेषिकैर्वेदोक्तधर्माभ्युपगमात् कथं
तेषामपि तद्विलोपकत्ववचनमुपपद्यते ? अनुगृहीतं हि ‘सांख्या वैशेषिकाश्च श्रुति-
परिपठितं धर्ममैच्छन् तत्त्वम्’ इति चेन्न ; श्रुत्युक्तधर्माणां तत्तद्देवतान्तर्यामिभगवदारा-
धनरूपत्वाद्यनुपगमेन विलोपकत्ववचनोपपत्तेः । न चैवं सति साङ्ख्यानानामपि विलोपकत्वं
स्यादिति वाच्यम् ; इष्टत्वात् । अत एव हि तुल्यन्यायतया वचनस्योपलक्षणार्थत्वमभिधीयते ।
त्रिदण्डधारिणेति । दत्तात्रेयरूपतया अवतीर्णेनेत्यर्थः । पुरुषाः—कपिलपतञ्जलिप्रभृतयः । एकं
पुरुषं—सर्वसाधारणमात्मानम् ; स्वेतरसमस्तवस्तुशरीरकमीश्वरमिति यावत् । नेच्छन्तीति ।
निरीश्वरसाङ्ख्यधर्मे ईश्वरस्यैवानुपगमात् । सेश्वरसाङ्ख्ययोगमतयोरीश्वराभ्युपगमेऽपि तस्य सर्व-
शरीरकत्वानुपगमादिति भावः । समासेनेति । व्यासस्तु तत्—श्रुत्यादिप्रसिद्धं, पुरुषैकात्म्यं
संक्षेपेण प्रतिपादितवान् । पुरुषैकात्म्यं—पुरुषस्य विष्णोः ऐकात्म्यं सर्वसाधारणात्मकत्वम् ;
सर्वशरीरकत्वमिति यावत् । एकः आत्मा यस्य चिदचिदात्मकप्रपञ्चस्य स एकात्मा, तस्य
भावः, ऐकात्म्यम् । पुरुषेण विष्णुना ऐकात्म्यं पुरुषैकात्म्यमित्यपि वदन्ति । इहेति । गौतम-
विषय इत्यर्थः । न तथेति । न वाचनिको बहिष्कार इत्यर्थः । तथा च तद्विहिष्कारो न युक्त

तुल्यन्यायतया वचनस्योपलक्षणार्थत्वात् । न खलु तद्वा तादृशेति कश्चिद्विशेषः । यद्यपि काशकुशावलम्बनन्यायेन पक्षान्तरादाधिक्यमस्य पक्षस्य, अथापि न तद्वेदान्तसन्निधौ ; न खलु मशकाद्वलिष्ठोऽपि मातङ्गः कण्ठीरवमुपरूणद्धि ॥

“यदक्षपादः प्रवरो मुनीनां शमाय शास्त्रं जगतो जगाद ।

कुतार्किकाज्ञाननिवृत्तिहेतुः करिष्यते तस्य मया निबन्धः ॥”

इति वाक्यमक्षपादपक्षपातेनोक्तमित्यनास्थेयम् ॥ उक्तं च पूर्वार्चयैः—

“काणादमाक्षपादं वा कापिलं तन्त्रमेव वा ।

तन्त्राण्येतानि सर्वाणि न तन्त्राण्यात्मनिर्णये ॥” इति ॥

इति भावः । तुल्यन्यायतयेति । बहिष्कार्यतानियामकस्य श्रुत्यादिविरुद्धार्थप्रतिपादनपरत्वस्यात्रापि सत्त्वादिति भावः । उपलक्षणार्थत्वादिति । अन्येषामपि संग्रहार्थत्वादिति भावः । काकेभ्यो दधि रक्ष्यतामित्यत्र काकशब्दस्य दध्युपघातकत्वावच्छिन्न इव काणाद इत्यादेः श्रुत्यादिविरुद्धार्थप्रतिपादकत्वावच्छिन्ने लाक्षणिकतेति भावः । काशकुशावलम्बनन्यायेनेति । बहुर्थसंवादात्पार्थविरोधादिरूपदुर्बलयुक्त्यवलंबनेनेत्यर्थः । मुख्यकल्पासंभवेऽनुकल्पावलंबनन्यायेनेति वा । अयं भावः—वेदप्रामाण्यवादिमतान्तरमवलम्ब्य बौद्धादिमतनिरसने प्रसक्ते नैयायिकमतमेव तत्राभ्यर्हितत्वेन स्वीक्रियते, न तु साङ्ख्यदिमतम् । ततश्च वेदान्तमतं मुख्यकल्पत्वेन, नैयायिकमतमनुकल्पत्वेनेति । न तद्वेदान्तसन्निधौ इति । वेदान्तशास्त्रादाधिक्येन तत्तुल्यतया वा परिग्राह्यतायां न तदुपयोगीत्यर्थः । इममेवार्थं दृष्टान्तेन विशदयति—न खल्विति । शमायेति । आत्यन्तिकदुःखनिवृत्तिरूपमोक्षायेत्यर्थः । आक्षपादबहिष्कारे पूर्वार्चयसंवादमाह—उक्तं चेति । तन्त्राणि शास्त्राणि । आत्मनिर्णये—यथावस्थितात्मस्वरूपनिर्णये । न तन्त्राणीति । न कारणानीत्यर्थः । ‘तन्त्रं कुटुम्बकृत्ये स्यात्कारणे च परिच्छदे । शास्त्रे प्रधानसिद्धान्ते’ इति विश्वः ।

AVACCHEDAKA TĀSARA

By

Mahāmahopādhyāya Krishna Tatachariar,

EDITED BY

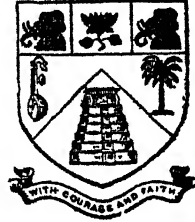
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॥ अवच्छेदकतासरः ॥

महामहोपाध्यायकृष्णताताचार्यैः

विरचितः



अण्णामलैविश्वविद्यालयन्यायाध्यापकेन

वे. सुब्रह्मण्यशास्त्रिणा

प्रकाशितः

1940

॥ श्रीगुरुभ्यो नमः ॥

। भूमिका ।

न्यायमहारण्यनव्यमार्गप्रतिष्ठापकाः श्रीमन्तः गङ्गेशोपाध्यायाः तत्त्वचिन्तामणौ ‘यद्विषयकत्वेन लिङ्गज्ञानस्यानुमितिप्रतिबन्धकत्वं तत्त्वं हेत्वाभासत्वम्’ इत्यादरेण हेत्वाभासं लक्षयामासुः । तच्च ग्रन्थं व्याचक्षाणाः शिरोमणिभट्टाचार्याः यद्विषयकत्वेनेति तृतीयया स्वरूपसंबन्धरूपावच्छेदकत्वविवक्षणं दोषैकदेशे बह्व्यभावादावतिव्याप्तिसंपादकमिति मन्यमानाः ‘अवच्छेदकत्वञ्चेहानतिरिक्तवृत्तित्वम्’ इति प्रत्यपादयन् । तद्ग्रन्थविवरणावसरे लक्षणे सामान्यपदपूरणेनोपक्षिप्तं स्वरूपसंबन्धरूपावच्छेदकताघटितपरिष्कारं अन्ते असाधारण्यव्याप्तिदोषेण दूषयित्वा शिरोमण्यभिमतं अनतिरिक्तवृत्तित्वरूपावच्छेदकत्वपक्षं अपूपुषन् श्रीमद्भट्टाधरभट्टाचार्यचक्रवर्तिनः ।

भट्टाचार्योदीरितदोषपरिहारेण स्वरूपसंबन्धरूपावच्छेदकत्वघटितमेव हेत्वाभाससामान्यलक्षणं, असाधारण्यविषयित्वावच्छिन्नप्रतियोगित्वज्ञानवैशिष्ट्यानवच्छिन्नप्रतिबन्धकत्वविरोध्यनुमितिजनकत्वसमूहालम्बनानुमितिप्रतिबध्यत्वान्यतमे अवच्छेदकतासंबन्धेन यद्गूपावच्छिन्ननिरूपकताकविषयितात्वव्यापकत्वं निवेश्य परिष्क्रियते अत्रावच्छेदकतासराभिधे निबन्धे । नातिविस्तृतया नातिसंक्षिप्तया अध्येतृजनव्युत्पत्तिदायिन्या भट्टाचार्यसरण्या दुरुहानंशान् व्युत्पादयन्नयं ग्रन्थः अध्यापकानामध्येतृणाञ्च बहूपकरोतीत्यत्र नास्ति संशयलेशोऽपि । अपरोऽप्ययं विशेषः यदत्र विदुषां हृदयङ्गमा अनुगमपद्धतिरपि वितता वर्तते ।

एतद्ग्रन्थस्य प्रणेतारः तिरुप्पक्कुलि अप्पावैयङ्गारिति प्रसिद्धाः महामहोपाध्याय-कृष्णताताचार्याः मार्कौ पञ्चाशतः वत्सरेभ्यः पूर्वं काञ्चीमण्डलमलञ्चक्रुः । एभिर्विरचिताः (१) शतकोटिखण्डनम् (२) सत्प्रतिपक्षखण्डनम् (३) मण्डनम् (४) सत्प्रतिपक्षविचारः (५) सामान्यनिरुक्तेः कापि व्याख्या (६) वादकल्पाभिधं तत्पत्रम् (७) अवच्छेदकतासरः इत्येते न्यायग्रन्थाः नैयायिकतिलकानानन्दतुन्दिलयन्ति ।

दिगन्तविश्रान्तयशोभिः गोश्रीदेशाभिजनैः (Cochin State) नैयायिकतिलकैः
मान्दिदृ कुञ्जुनम्बूदिरीति विश्रुतैः ब्रह्मश्रीयुतशास्तृशर्मभिः पूर्णत्रयीशालये (Trippuni-
thura) स्वेनैव शोधितस्वीयादर्शप्रदानपूर्वकं प्रोत्साहितोऽहमेतद्ग्रन्थप्रकाशने प्रावर्तिषि ।
एतैश्चास्मिन् निरमायि विषमस्थलटिप्पणी यस्यां दुरूहानुगमविषमग्रन्थानां तात्पर्यं विवृ-
तम् । विना एतादृशीं टिप्पणीं तादृशपरिष्कारणामैदम्पर्यं नावधारयितुं पार्यते इत्यवचन-
सिद्धमेव तत्परिशीलिनां विदुषाम् । अतोऽत्र सापि संयोजिता ।

एतद्ग्रन्थप्रकाशनाय शोधितस्वीयादर्शदानेन बहु उपकृतवतां ब्रह्मश्रीयुतशास्तृशर्म-
णां (कुञ्जुनम्बूदिरिमहाशयानां) प्रत्युपकारं कमपि कर्तुमशक्तोऽहं कृतज्ञतामेव केवलं निवे-
दयामि ।

तथा एतद्ग्रन्थमुद्रणे बहु आनुकूल्यं दर्शितवत्सु अण्णामलैविश्वविद्यालयाधिकृतेषु
अधमणोऽहमस्मीति शम् ।

अण्णामलैनगरम्
10—11—'40

वे. सुब्रह्मण्यशास्त्री
प्रकाशकः

॥ श्रीः ॥

॥ अवच्छेदकतासरः ॥

॥ हरिः ॥

॥ श्रीगणपतये नमः ॥

॥ अविघ्नमस्तु ॥

अनाहार्यज्ञानवृत्तित्वविशिष्टयद्गूपावच्छिन्ननिरूपकताकविषयितात्वव्यापकं प्रकृतानु-
मितिप्रतिबन्धकतानिरूपितस्वरूपसंबन्धरूपावच्छेदकत्वं तद्गूपावच्छिन्नत्वं दोषत्वमिति करुणे
पाषाणमयत्ववत्पर्वते अतिव्याप्तिः, प्रतिबन्धकतायां ज्ञानवैशिष्ट्यानवच्छिन्नत्वनिवेशे च
प्रतिहेतुव्यापकसाध्याभावसमानाधिकरणप्रतिहेतुमत्पक्षे अव्याप्तिः, तस्य प्रकृतानुमितिप्रति-
बन्धकतानुपयुक्तपदार्थघटिततया अलक्ष्यत्वाङ्गीकारेऽपि असाधारण्ये अव्याप्तिरित्युक्तम् ।

अत्र पक्षधर्मत्वाविषयकज्ञानवैशिष्ट्यानवच्छिन्नत्वस्य प्रतिबन्धकतायां निवेशे
नासाधारण्याव्याप्तिः ॥ १ ॥

नचैवं सति हृदो वह्निमान् जलादित्यत्र ^१सरिज्जलव्यापकवह्न्यभावे अतिव्याप्तिः
सरिज्जलवान् हृदः इति ज्ञानस्य पक्षधर्मताविषयकत्वात् । यदि च प्रकृतपक्षतावच्छेदका-
वच्छिन्नविशेष्यतानिरूपितप्रकृतहेतुतावच्छेदकतापर्याप्त्यधिकरणधर्मपर्याप्तावच्छेदकताकप्र-
कारत्वनिरूपकत्वमेव पक्षधर्मत्वाविषयकत्वमिति नोक्तदोषावसरः इत्युच्यते । तदा हृदो
वह्निमान् काञ्चनमयजलादित्यत्र असाधारण्ये अव्याप्तिः तन्निश्चयीयप्रतिबन्धकतायाः
जलवान् हृदः इति ज्ञानवैशिष्ट्यावच्छिन्नत्वात् तादृशज्ञानस्य उक्तपक्षधर्मत्वाविषयकत्वादिति
वाच्यम् ॥ २ ॥

पक्षधर्मताज्ञानवृत्तिभेदप्रतियोगितावच्छेदकत्वज्ञानवैशिष्ट्यावच्छिन्नत्वोभयाभावस्यैव
प्रतिबन्धकतायां निवेशात् । अवच्छेदकता च अवच्छेदकतासंबन्धावच्छिन्ना । तथाच

काञ्चनमयजलवान् हृदः इति ज्ञानस्यापि जलवद्धूदनिश्चयत्वेन असाधारण्यनिश्चयीयप्रति-
बन्धकतायामवच्छेदकत्वान्नाव्याप्तिः, न वा सरिज्जलव्यापकवह्न्यभावे अतिव्याप्तिः जलवान्
हृदः इति ज्ञानस्य तन्निश्चयीयप्रतिबन्धकतायामनवच्छेदकत्वात् ॥ ३ ॥

न चैवं सत्यसाधारण्ये अव्याप्तिः तन्निश्चयासमानकालिके पक्षधर्मताज्ञाने प्रति-
बन्धकतावच्छेदकत्वविरहात् । यदि च स्वावच्छिन्नविषयकनिश्चयविशिष्टपक्षधर्मताज्ञान-
निष्ठभेदप्रतियोगितावच्छेदकत्वस्यैव निवेशान्नायं दोषः । निश्चयवैशिष्ट्यं सामानाधिकरण्य-
कालिकविशेषणत्वोभयसंबन्धेनेत्युच्यते । तदा स्वरूपासिद्धाव्याप्तिः, तन्निश्चयविशिष्टा-
नाहार्यपक्षधर्मताज्ञानाप्रसिद्धेरिति वाच्यम् ॥ ४ ॥

पक्षधर्मताज्ञाननिष्ठभेदप्रतियोगितावच्छेदकत्वमित्यत्रावच्छेदकतायाः स्वावच्छेदक-
तावच्छेदकविषयतासंबन्धावच्छिन्नाया एव विवक्षणीयत्वात्, असाधारण्यविषयकज्ञानास-
मानकालीनपक्षधर्मताज्ञानस्यापि स्वावच्छेदकतावच्छेदकविषयतासंबन्धेन प्रतिबन्धकता-
वत्त्वसंभवेन उक्तानुपपत्तिविरहात् ॥ ५ ॥

नचैवं सति जलवान् हृदो वह्निमान् धूमात्, हृदो वह्निमान् जलवद्धूदकालीन-
धूमादित्यादौ वह्न्यप्यपकीभूताभावप्रतियोगिजलजलव्यापकवह्न्यभावादावतिव्याप्तिः ।
एवं हृदो वह्निमान् वह्न्यभाववज्जलवत्कालीनधूमादित्यादौ जलवद्धूदे अतिव्याप्तिः पक्ष-
धर्मताज्ञाने तदज्ञानीयप्रतिबन्धकतावच्छेदकतावच्छेदकविषयतासत्त्वनियमात् । यद्यपीयम-
तिव्याप्तिः अनतिरिक्तवृत्तित्वकल्पेऽप्यस्ति असाधारण्यसंग्रहाय विवक्षणीयस्य प्रकृतानु-
मित्यप्रतिबन्धकत्वपक्षधर्मताज्ञानकालीनत्वोभयाभावे यादृशविशिष्टविषयकत्वव्यापकत्व-
स्याक्षतेः । तथापि तत्करूपे पक्षधर्मताज्ञाने अनाहार्यत्वमनिवेश्य असाधारण्याविषयक-
ज्ञाननिष्ठपक्षधर्मताज्ञानकालीनत्वप्रकृतानुमित्यप्रतिबन्धकत्वोभयाभावे, असाधारण्याविषय-
त्वप्रकृतानुमित्यप्रतिबन्धकत्वोभयाभाव एव वा यादृशविशिष्टविषयकत्वव्यापकत्वस्य निवे-
शनीयतया न दोषः इति वाच्यम् ॥ ६ ॥

ज्ञानवैशिष्ट्यावच्छिन्नत्वासाधारण्यविषयित्वानवच्छिन्नत्वोभयाभावस्यैव प्रतिबन्ध-
कतायां निवेश्यत्वात् ॥ ७ ॥

नचैवं सति हृदो वह्निमान् जलादित्यत्र जलवद्भूदे अतिव्याप्तिः वह्निव्यापकीभूताभावप्रतियोगिजलविषयकनिश्चयविशिष्टजलवद्भूदविषयकनिश्चयत्वावच्छिन्नप्रतिबन्धकतायां अवच्छेदककोटिप्रविष्टासाधारण्यविषयिताया अप्यवच्छेदकत्वात् । यदि च अवच्छेदककोटिप्रविष्टानामवच्छेदकत्वमप्रामाणिकं प्रतिबन्धकादिविशेषणस्यैव प्रतिबन्धकतावच्छेदकत्वादिति विभाव्यते । तदापि हृदवृत्तिजलेऽतिव्याप्तिः, वह्निव्यापकीभूताभावप्रतियोगि जलं हृदवृत्ति इति ज्ञानीयहृदवृत्तिजलविषयितायाः असाधारण्यविषयितारूपतया तदवच्छिन्नप्रतिबन्धकतायामुभयाभावसत्त्वादिति वाच्यम् ॥ ८ ॥

असाधारण्यविषयितावृत्तिभेदप्रतियोगितावच्छेदकत्वस्यैव असाधारण्यविषयित्वानवच्छिन्नत्वपदेन विवक्षितत्वात् । अवच्छेदकता च अवच्छेदकत्वसंबन्धेन । तथा च केवलासाधारण्यविषयितायां हृदवृत्तिजलनिश्चयत्वावच्छिन्नप्रतिबन्धकतायाः अवच्छेदकतासंबन्धेनासत्त्वान्न दोषः ॥ ९ ॥

नच तथापि हृदो वह्निमान् द्रव्यत्वाभाववज्जलादित्यत्र प्रतियोगित्ववज्जले अतिव्याप्तिः । प्रतियोगित्वावच्छेदेन द्रव्यत्वावगाहिनिश्चयसहितस्य वह्निव्यापकीभूताभावप्रतियोगिजलरूपासाधारण्यनिश्चयस्य प्रतियोगित्वरूपावच्छेदकधर्मदर्शनमुद्रया प्रतिबन्धकत्वात् समानाकारकज्ञानीयविषयतानामैक्यात् केवलासाधारण्यविषयकज्ञानीयविषयताया अवच्छेदकत्वाक्षतेरिति वाच्यम् ॥ १० ॥

असाधारण्यविषयितावृत्तिभेदप्रतियोगितानवच्छेदकत्वपक्षसाध्यवैशिष्ट्यावगाहिबुद्धित्वावच्छिन्नप्रतिबन्धतानिरूपितत्वोभयाभावस्यैव असाधारण्यविषयित्वानवच्छिन्नपदार्थत्वात्, उक्तप्रतिबन्धकतायां तदक्षतेः ॥ ११ ॥

न च तथापि जलं वह्निमत् जलादित्यादौ प्रतियोगित्ववज्जले अतिव्याप्तिः, प्रतियोगित्वावच्छेदेन वह्निभावावगाहिनिश्चयसहितस्य असाधारण्यनिश्चयस्य अवच्छेदकधर्मदर्शनमुद्रया प्रतिबन्धकतायां पक्षसाध्यवैशिष्ट्यावगाहिबुद्धित्वावच्छिन्नप्रतिबन्धतानिरूपितत्वस्यापि सत्त्वादिति वाच्यम् ॥ १२ ॥

असाधारण्याविषयकभ्रमभिन्नज्ञानवृत्तित्वस्यैव असाधारण्यविषयित्वानवच्छिन्नत्वे-
त्यनेन विवक्षितत्वात् ॥ १३ ॥

न चैवं धूमवान् हृदो वह्निमान् जलादित्यत्र वह्निव्यापकीभूताभावप्रतियोगिजल-
वद्भूदे अतिव्याप्तिः, धूमाभाववच्छेदकत्वेन गृहीततादृशजलवद्भूदनिश्चये अवच्छेदकधर्मदर्श-
नविधया प्रतिबन्धकतायाः असाधारण्याविषयकभ्रमभिन्नज्ञानावृत्तित्वादिति वाच्यम् ॥ १४ ॥

असाधारण्याविषयकभ्रमभिन्नज्ञानावृत्तित्वासाधारण्यविषयितात्वव्यापकत्वोभयाभाव-
स्यैव असाधारण्यविषयित्वानवच्छिन्नत्वपदार्थत्वात् । व्यापकता च अवच्छेदकतासं-
बन्धावच्छिन्ना । असाधारण्यविषयितेत्यनेन तादृशानिरूप्यनिरूपकभावापन्नविषयिताया
एव विवक्षिततया, हृदो वह्निमान् धूमादित्यादौ असाधारण्याप्रसिद्ध्या अव्याप्तिः, प्राति-
स्विकरूपेण नानाविधासाधारण्यविषयितानां निवेशे गौरवमिति तु न शङ्क्यम् । अनति-
रिक्तवृत्तित्वकल्पेऽपि तादृशविषयितानिवेशावश्यकतायाः प्रागुक्तत्वात् ॥ १५ ॥

न च तथापि वह्निव्यापकीभूताभावप्रतियोगि जलम् जलवान् हृदः, तादृशं
शैवालम् शैवालवान् हृदः इत्यादिसकलनिश्चयानां एकरूपेणैव प्रतिबन्धकतया असाधार-
ण्याव्याप्तिर्दुर्वारा । तथाहि ज्ञानविशिष्टज्ञानत्वेन प्रतिबन्धकता । वैशिष्ट्यम् स्वीयवह्नि-
व्यापकीभूताभावप्रतियोगित्वप्रकारताविशिष्टप्रकारतानिरूपितहृदत्वावच्छिन्नविशेष्यतानिरूप-
कत्वसामानाधिकरण्यकालिकविशेषणत्वैतत्तत्त्वसंबन्धेन । प्रकारतावैशिष्ट्यञ्च स्ववृत्ति-
संबन्धावच्छिन्नत्वस्वनिरूपितविशेष्यतावच्छेदकावच्छिन्नत्वोभयसंबन्धेन । स्ववृत्तित्वं स्वनिष्ठ-
प्रकारतानिरूपितावच्छिन्नत्वप्रकारतानिरूपितत्वसंबन्धेन । इत्थञ्च असाधारण्याविषयकभ्रम-
भिन्नज्ञानेऽपि असाधारण्यप्रतिबन्धकतासत्त्वेनाव्याप्तिरित्यतो नेदं युक्तमिति वाच्यम् ॥ १६ ॥

असाधारण्याविषयकज्ञानेत्यनेन असाधारण्यविषयित्वाव्यापकविषयिताशून्यासा-
धारण्याविषयकज्ञानस्यैव विवक्षणीयतया दोषाभावात् । १वस्तुतस्तु निरूप्यनिरूपक-

टि.—१. हृदो वह्निमान् वह्निव्यापकीभूताभावप्रतियोगिशैवालकालीनजलादित्यत्र असा-
धारण्ये अव्याप्तिः अतः वस्तुत इति ।

भावापन्नासाधारण्यविषयितात्वपर्याप्तावच्छेदकताकावच्छेदकत्वाभावज्ञानवैशिष्ट्यावच्छिन्नत्वो-
भयाभाव एव प्रतिबन्धकतायां निवेशनीयः इति न प्रागुक्तप्रतियोगित्ववज्जलेऽतिव्या-
प्तिः, न वा असाधारण्ये अव्याप्तिः । उक्तानुगतप्रतिबन्धकतायां तद्विषयितायाः प्रतिबन्ध-
कविशेषणत्वविरहेऽपि प्रतिबन्धकतावच्छेदकतावच्छेदकसंबन्धघटकत्वात् अवच्छेदककोटि-
प्रविष्टानामवच्छेदकत्वाङ्गीकारात् । अथवा उक्तसंबन्धावच्छिन्नज्ञानत्वावच्छिन्नावच्छेदकत्वा-
भावस्यैव असाधारण्यविषयित्वानवच्छिन्नपदार्थत्वात् दोषः ॥ १७ ॥

नचैवं सति हृदो वह्निमान् जलादित्यत्र वह्नित्यापकीभूताभावप्रतियोगिशैवालेऽति-
व्याप्तिरिति वाच्यम् ॥ १८ ॥

ज्ञानवैशिष्ट्यावच्छिन्नप्रतिबन्धकतावच्छेदकत्वासाधारण्यविषयिताभिन्नत्वोभयाभाव-
स्यैव यद्भावावच्छिन्ननिरूपकताकविषयितात्वव्यापकतया विवक्षणीयत्वात् ॥ १९ ॥

नचैवं सति वह्न्यभाववद्भूदादावपि लक्षणगमनासंभवः घूमाभाववच्छेदकत्वेन
वह्न्यभाववगाहिज्ञानवैशिष्ट्यावच्छिन्नप्रतिबन्धकतायां वह्न्यभाववद्भूदविषयिताया अपि
अवच्छेदकत्वसंभवात् । यदि च अवच्छेदकधर्मदर्शनीयप्रतिबन्धकतायां न विषयिताया
अवच्छेदकत्वं संभवति । सकलावच्छेदकधर्मदर्शनानुरोधेन ज्ञानविशिष्टज्ञानत्वावच्छिन्नाया
अनुगतायास्तस्या वाच्यतया विषयितायाः प्रतिबन्धकविशेषणत्वविरहात् । तथाहि स्वीयघू-
माभावत्वावच्छिन्नकिञ्चिद्धर्मव्यापकत्वविशेषितस्वरूपसंबन्धावच्छिन्नप्रकारतानिरूपितविशेष्य -
तावच्छेदकताविशिष्टप्रकारतानिरूपितहृदत्वावच्छिन्नविशेष्यताकत्वसामानाधिकरण्यकालिक -
विशेषणत्वैतत्तत्तयसंबन्धेन । अवच्छेदकतावैशिष्ट्यं स्वावच्छेदकसंबन्धावच्छिन्नत्वस्वा-
वच्छेदकावच्छिन्नत्वोभयसंबन्धेन । इत्थञ्च कथं वह्न्यभाववद्भूदाद्यसंग्रहः इत्युच्यते । तदा
पाषाणमयत्ववत्पर्वतादावतिव्याप्तिरिति वाच्यम् ॥ २० ॥

ज्ञानवैशिष्ट्यानवच्छिन्नप्रतिबन्धकतानवच्छेदकत्वासाधारण्यविषयिताभिन्नत्वोभयाभा-
वस्यैव व्यापकत्वविवक्षणात् ॥ २१ ॥

नच पर्वतो वह्निमानित्यादौ घटत्वावच्छिन्नेऽतिव्याप्तिः घटप्रकारकप्रत्यक्षेच्छाविशिष्ट-
तादृशप्रत्यक्षसामग्र्याः पर्वतो वह्निमानित्यनुमितिप्रतिबन्धकत्वात् तस्याश्च घटचक्षुस्संयोग-

सहितघटज्ञानरूपत्वात् । अनतिरिक्तवृत्तित्वनिवेशे तु तादृशेच्छाद्यसमवहितज्ञाने प्रतिबन्ध-
कत्वासत्त्वेनानुपपत्तिविरहादिति वाच्यम् ॥ २२ ॥

ज्ञानवैशिष्ट्यानवच्छिन्नेत्यनेन समवायद्वयघटितसामानाधिकरण्यसंबन्धावच्छिन्नाव-
च्छेदकताकान्यत्वस्यैव विवक्षिततया दोषविरहात् ॥ २३ ॥

नच इष्टसाधनपाकत्वावच्छिन्नेऽतिव्याप्तिः इच्छासामग्र्या अनुमितिप्रतिबन्धकत्वात्
तस्याश्च कृतिसाध्यताज्ञानसहितसिद्धत्वज्ञानाभावसहितपाकधर्मिकेष्टसाधनताज्ञानरूपत्वादिति
वाच्यम् ॥ २४ ॥

अवच्छेदककोटिप्रविष्टानामवच्छेदकत्वे दोषविरहात् । कृतिसाध्यताज्ञानादौ फले-
च्छावैशिष्ट्यस्यापि सामग्र्यन्तर्भावात् । अवच्छेदककोटिप्रविष्टानामवच्छेदकत्वानुपगमे तु
प्रतिबन्धितायां अनुमितित्वानवच्छिन्नत्वं ज्ञानत्वावच्छिन्नत्वं वा निवेश्य उक्तानुपपत्तिर्वा-
रणीया । अत एव सिद्धिविषयेऽपि नातिव्याप्तिः । अनुमितेर्बाधादिज्ञानप्रतिबन्धित्वं
अनाहार्यज्ञानत्वेनैवेत्यन्यत्र स्थापितम् ॥ २५ ॥

न च तथापि पर्वतो वह्निमानित्यत्र वह्निमत्पर्वते अतिव्याप्तिः । वह्न्यभावप्रकार-
कपर्वतविशेष्यकनिश्चयस्य वह्नित्वावच्छिन्नप्रकारतानिरूपितपर्वतत्वावच्छिन्नविशेष्यतानि-
रूपकत्वाभावविशिष्टवह्न्यभावप्रकारकपर्वतविशेष्यकज्ञानत्वेनैव प्रतिबन्धकत्वात् अवच्छेदक-
कोटिप्रविष्टानामवच्छेदकत्वपक्षे वह्निमत्पर्वतविषयिताया अपि अवच्छेदकत्वादिति
वाच्यम् ॥ २६ ॥

स्वरूपसंबन्धावच्छिन्नावच्छेदकत्वस्यैव निवेश्यत्वात् । यदि च तादृशविशेष्यता-
निरूपकभेदोऽपि विनिगमनाविरहेण प्रतिबन्धकतावच्छेदक इति तत्र विषयितायाः स्वरूप-
संबन्धेनापि अवच्छेदकत्वमस्त्येवेति विभाव्यते । तदा प्रतिबन्धकताविशिष्टावच्छेदकत्वमेव
निवेश्यम् । वैशिष्ट्यं स्वसमानाधिकरणवृत्तित्वस्वनिरूपितत्वोभयसंबन्धेन ॥ २७ ॥

न च तथापि हृदो वह्निमानित्यत्र अवच्छेदकावच्छेदेन बाधाव्याप्तिः तत्र हृदत्व-
व्यापकत्वविशिष्टवह्न्यभावप्रतियोगिकस्वरूपत्वावच्छिन्नसांसर्गिकविषयतानिरूपकनिश्चयत्वेनैव

प्रतिबन्धकत्वात् । अन्यधर्मावच्छिन्नविशेष्यकज्ञाने हृदत्वव्यापकतायाः संसर्गतावच्छेदकतया भानविरहादेवातिप्रसङ्गभङ्गादिति वाच्यम् ॥ २८ ॥

संसर्गोऽपि हृदत्वादिना पदार्थान्तरावगाहिज्ञानसाधारण्यानुरोधेन निरूप्यनिरूपक-भावापन्नविषयताया एव प्रतिबन्धकतावच्छेदकघटकतया तत्र वृत्तिविषयतायां हृदत्वावच्छिन्नसांसर्गिकविषयतानिरूपितत्वस्य स्वरूपत्वावच्छिन्नसांसर्गिकविषयतायां हृदत्वावच्छिन्नविशेष्यतानिरूपितत्वस्य वा निवेशः इत्यत्र विनिगमनाविरहेण हृदत्वावच्छिन्नविशेष्यतायाः प्रतिबन्धकतावच्छेदकत्वाक्षतेः ॥ २९ ॥

न च तथापि घटो वृत्तित्वसामान्याभाववानित्यत्र घटवति बाधे अव्याप्तिः घटत्वावच्छिन्नप्रकारताशालिज्ञानत्वेनैव प्रतिबन्धकतया घटवत्त्वावच्छिन्ननिरूपकताकविषयितायाः प्रतिबन्धकतावच्छेदकत्वविरहादिति वाच्यम् ॥ ३० ॥

प्रतिबन्धकतावच्छेदकतेत्यनेन प्रतिबन्धकतावच्छेदकविषयित्वावच्छिन्नत्वस्य विवक्षितत्वात् प्रतिबन्धकतावच्छेदकीभूतप्रकारित्वावच्छिन्नत्वस्य तत्र सत्त्वात् ॥ ३१ ॥

न च तथापि वृक्षः कपिसंयोगी इत्यत्र कपिसंयोगाभाववद्भूते अतिव्याप्तिः । केवलस्वरूपसंसर्गकस्यापि अव्याप्यवृत्तित्वग्रहविरहावच्छिन्नस्य कपिसंयोगाभाववत्तानिश्चयस्य प्रतिबन्धकतायाः भट्टाचार्यैरसकृदुक्तत्वात् । अनतिरिक्तवृत्तित्वनिवेशे तु अव्याप्यवृत्तित्वग्रहद्वयमध्यपतितज्ञाने प्रतिबन्धकताया विरहान्न दोषः । हृदो वह्निमानित्यादौ तु अनवच्छिन्नविशेषणतया वह्न्यभाववद्भूदादेरेव दोषत्वं बाधग्रन्थे भट्टाचार्येणाभिहितमिति न तत्राव्याप्तिः । अव्याप्यवृत्तित्वग्रहकाले अनवच्छिन्नविशेषणतया वह्न्यभावप्रकारकज्ञानासम्भवात् । ये तु केवलविशेषणतया वह्न्यभाववद्भूदादेरपि दोषत्वमिच्छन्ति ते अव्याप्यवृत्तित्वभ्रमाभाववैशिष्ट्यं निश्चये निवेश्य लक्षणं संगमयन्तः गुणः कपिसंयोगी इत्यत्र गुणे कपिसंयोगाभावः अव्याप्यवृत्तिरिति ज्ञानस्य उत्तेजकतां स्वीकृत्य कपिसंयोगाभाववद्गुणे लक्षणमुपपादयन्ति । अतः न अनतिरिक्तवृत्तित्वनिवेशकरूपे दोषः इति वाच्यम् ॥ ३२ ॥

अमभिन्नावृत्तित्वस्य संसर्गतात्वविशिष्टत्वपर्यवसितस्य प्रकृतानुमितित्वव्यापकप्रतिबन्धकतायां निवेशनीयतया दोषविरहात् । अन्यथा यादृशस्थलविशेषे अव्याप्यवृत्तित्वज्ञान-

द्वयमध्ये पक्षे साध्याभावज्ञानं कदापि नासीत् तत्रातिव्याप्तेर्दुर्वारत्वात् । संसर्गतात्ववैशिष्ट्यं स्वनिष्ठावच्छेदकताप्रतियोगिताकभेदवत्त्वसंबन्धेन । स्वनिष्ठावच्छेदकता स्वनिष्ठावच्छेदकताप्रतियोगिताकभेदवत्त्वसंबन्धावच्छिन्ना । स्वनिष्ठावच्छेदकता स्वविशिष्टप्रकारतानिरूपकत्वसंबन्धावच्छिन्ना । प्रकारतायां स्ववैशिष्ट्यं स्वनिष्ठावच्छेदकताप्रतियोगिताकभेदवत्त्वसंबन्धेन । स्वनिष्ठावच्छेदकता स्वाश्रयविशिष्टत्वसंबन्धावच्छिन्ना । वैशिष्ट्यं स्वनिरूपितत्वस्वाश्रयविशिष्टत्वोभयसंबन्धेन । वैशिष्ट्यं स्वप्रतियोगिनिष्ठत्वस्वानुयोगिनिष्ठविशेष्यतानिरूपितत्वोभयसंबन्धेन । हृदो वह्निमानित्यादौ केवलस्वरूपसंबन्धेन बहुधभाववद्भूदादावतिव्याप्तिरिति तु न । तस्य लक्ष्यत्वाभ्युपगमसंभवात् । बाधग्रन्थे पक्षान्तरे तस्य लक्ष्यताया अभिहितत्वात् । अत एव एतत्समानयोगक्षेमस्य प्रतियोगिव्यधिकरणबहुधभावाभाववदवृत्तिमद्भूदस्यापि लक्ष्यत्वाभ्युपगमसंभवात् न तत्रातिव्याप्तिशङ्का । कथमन्यथा अव्याप्यवृत्तित्वशून्यजात्यभावकालीनः अभावः जातिमानित्यत्र केवलस्वरूपसंबन्धेन जात्यभाववत्तादृशाभावे प्रतियोगिव्यधिकरणजात्यभावाभाववदवृत्तिमत्तादृशाभावे चातिव्याप्तिशङ्कावारणम् । एतेषां दोषत्वेऽपि अव्याप्यवृत्तिसाध्यकसङ्केतौ उक्तरीत्या दोषाप्रसक्तेः ॥ ३३ ॥

न चैवमपि प्रतिहेतुव्यापकसाध्याभावसमानाधिकरणप्रतिहेतुमत्पक्षरूपसत्प्रतिपक्षे अव्याप्तिः तदीयविषयितायाः ज्ञानवैशिष्ट्यानवच्छिन्नप्रतिबन्धकतावच्छेदकत्वविरहात् । यदि च ज्ञानवैशिष्ट्यानवच्छिन्नेत्यनेन ज्ञानवैशिष्ट्यावच्छिन्नत्वसत्प्रतिपक्षविषयित्वानवच्छिन्नत्वोभयाभावस्यैव विवक्षणीयतया न सत्प्रतिपक्षाव्याप्तिरित्युच्यते । तदा प्रतिहेतुमत्पक्षातिव्याप्तिरिति वाच्यम् ॥ ३४ ॥

ज्ञानवैशिष्ट्यानवच्छिन्नप्रतिबन्धकतानवच्छेदकत्वासाधारण्यविषयिताभिन्नत्वसत्प्रतिपक्षविषयिताभिन्नत्वैतत्तयाभावे यद्रूपावच्छिन्ननिरूपकताकविषयितात्वव्यापकत्वस्य निवेद्यत्वात् ॥ ३५ ॥

न चैवमपि हृदो वह्निमान् धूमादित्यत्र जलव्यापकधूमाभावसमानाधिकरणजलवद्भूदधूमाभावाभावव्यापकीभूताभावप्रतियोगिजलवद्भूदाव्याप्तिः । बाधसत्प्रतिपक्षभिन्नाः

ये हेत्वाभासाः तद्व्याप्यानामपि तन्मध्ये एवान्तर्भूततया तस्य स्वरूपासिद्धिरूपत्वादिति वाच्यम् ॥ ३६ ॥

सत्प्रतिपक्षविषयिताभिन्नत्वस्थाने तादृशसमूहालम्बनानुमितिविरोध्यनुमितिजनकतानवच्छेदकत्वस्य निवेशनीयत्वात् । अनतिरिक्तवृत्तित्वनिवेशकरूपे विशिष्टद्वयाघटितत्वशरीरे एतन्निवेशावश्यकतया अत्र करूपे गौरवाप्रसक्तेः । यद्यप्येवं सति मेयत्वविशिष्टव्यभिचारादिवारणाय निवेशितस्य विशिष्टान्तराघटितत्वस्य विशेषगुणवद्धटादिसंग्रहाय विशिष्टान्तरविषयितात्वाव्यापकत्वपर्यवसानेऽपि तद्दोषतादवस्थम् । उक्तत्रितयाभावस्य विशेषगुणवद्धटविषयितायां गुणवद्धटविषयितायाश्च वर्तमानस्य एकत्वात् तादृशाभावे विशिष्टान्तरविषयितात्वाव्यापकत्वासत्त्वात् । तथापि असाधारण्यविषयित्वावच्छिन्नप्रतियोगित्वज्ञानवैशिष्ट्यानवच्छिन्नप्रतिबन्धकत्वविरोध्यनुमितिजनकत्वान्यतमे यद्रूपावच्छिन्ननिरूपकताकविषयितात्वव्यापकत्वं विशिष्टान्तरविषयितात्वाव्यापकत्वञ्च निवेश्यम् । व्यापकता च अवच्छेदकतासंबन्धेनेति न दोषः इति ॥ ३७ ॥

नचैवं सति वह्न्यभावव्याप्यव्याप्यवद्धूदे अतिव्याप्तिरिति वाच्यम् ॥ ३८ ॥

तादृशानुमितिप्रतिबध्यानुमितिजनकताया एव विवक्षितत्वात् ॥ ३९ ॥

नचैवं सति हृदो वह्निव्याप्यवानित्यत्र वह्न्यभावव्याप्यवद्धूदेऽतिव्याप्तिः । वह्न्यभाववत्तानुमितेः वह्निव्याप्यवत्तानुमितिप्रतिबध्यत्वादिति वाच्यम् ॥ ४० ॥

प्रकृतपरामर्शप्रतिबध्यानुमितिजनकताया विवक्षितत्वात् । वह्न्यभाववत्तानुमितेः वह्निव्याप्यव्याप्यवत्तानिश्चयात्मकपरामर्शप्रतिबध्यतया दर्शितदोषानवकाशात् ॥ ४१ ॥

नचैवं हृदो जलवान् वह्निव्याप्यादित्यत्र वह्न्यभावव्याप्यवद्धूदे अतिव्याप्तिः । अनुमितौ प्रकृतपरामर्शप्रतिबन्धकताया अपि निवेशे सत्प्रतिपक्षाव्याप्तिः बाधज्ञानस्य परामर्शप्रतिबन्धकत्वादिति वाच्यम् ॥ ४२ ॥

तादृशानुमितित्वव्यापकप्रतिबध्यताविशिष्टजनकताया एव विरोध्यनुमितिजनकतापदेन विवक्षितत्वात् । वैशिष्ट्यं स्वावच्छेदकावच्छिन्नप्रतिबध्यतानिरूपितप्रतिबन्धकतावृत्ति-

भेदप्रतियोगितावच्छेदकत्वस्वनिरूपितप्रतिबन्धकतावच्छेदकविषयित्वावच्छिन्नानुमितिनिष्ठजन्यतानिरूपितत्वोभयसंबन्धेन । भेदप्रतियोगितावच्छेदकता स्वसमानाधिकरणभेदप्रतियोगितावच्छेदकतासंबन्धेन । तथाच बह्व्यभावानुमितिजनकताया अतथात्वान्न दोषः ॥ ४३ ॥

नचैवमपि बह्व्यभावव्याप्यव्याप्यबह्व्यभावबद्धे अतिव्याप्तिः व्यापकसमानाधिकरण्यरूपव्याप्यवगाहितदज्ञानीयानुमितिजनकतायाः प्रतिबन्धकताव्याप्यत्वात् । अनतिरिक्तवृत्तित्वनिवेशकरूपे तु विशिष्टान्तराघटितत्वविरहान्न दोषः इति वाच्यम् ॥ ४४ ॥

एकरूपेण जनकताभ्युपगमेन घटाभावव्यापकबह्व्यभावव्याप्यसमानाधिकरणघटाभाववानिति ज्ञानसाधारणजनकतायाः प्रतिबन्धकत्वाव्याप्यत्वात् । एकरूपञ्च धर्मविशिष्टाभावत्वावच्छिन्नप्रकारतानिरूपितहृदत्वावच्छिन्नविशेष्यताशालिनिश्चयत्वम् । प्रकारतायां धर्मवैशिष्ट्यं स्वावच्छिन्नप्रतियोगित्वसंबन्धावच्छिन्नप्रकारतानिरूपिताभावत्वावच्छिन्नप्रकारतानिरूपितव्यापकत्वप्रकारतानिरूपितबह्व्यभावव्याप्यत्वावच्छिन्नप्रकारतानिरूपितसमानाधिकरण्यप्रकारतानिरूपितत्वस्वावच्छिन्नप्रतियोगितासंबन्धावच्छिन्नप्रकारतानिरूपितत्वोभयसंबन्धेन । यद्यपि प्रतियोगिवैयधिकरण्यघटिततदघटितव्याप्तिज्ञानयोः सिद्धान्तलक्षणे व्याप्यनुगमोक्तरीत्या एकरूपेण जनकत्वे जनकतायां प्रतिबन्धकताव्याप्यत्वं न संभवति । प्रतियोगिवैयधिकरण्यघटितव्याप्यवगाहिज्ञानप्रतिबन्धकतायां अव्याप्यवृत्तित्वज्ञानस्योत्तेजकतया प्रतिबन्धकताभेदात् कस्या अपि प्रतिबन्धकतायाः जनकताव्यापकत्वासंभवात् । तथापि अव्याप्यवृत्तित्वग्रहविरहावच्छिन्नप्रतिबन्धकतानवच्छेदकीभूतस्वावच्छेदकाभावत्वावच्छिन्नविषयताविशिष्टाश्रयतासंबन्धेन जनकतायां व्याप्यत्वस्य निवेशनीयतया न दोषः । अथवा स्वरूपसंबन्धेन जनकतां प्रति स्वावच्छेदकावच्छिन्नप्रतिबध्यतानिरूपितप्रतिबन्धकताविशिष्टत्वसंबन्धेन प्रतिबध्यताया व्यापकत्वविवक्षया न दोषः । वैशिष्ट्यं स्वरूपस्वावच्छेदकीभूताभावप्रतियोग्युपहितत्वान्यतरसंबन्धेन ॥ ४५ ॥

नच तथापि गगनाभाववदावेयवत्कालीनगगनसाध्यके तादृशगगनाभावव्याप्यव्या-

दि.—१. प्रतियोगिवैयधिकरण्यघटितस्य भिचारग्रहप्रतिबन्धकतावच्छेदकविषयित्वावस्थेना-
नुगमः ।

प्यवत्पक्षे अतिव्याप्तिः । व्यापकसामानाधिकरण्यरूपव्याप्यवगाहिनिखिलज्ञानानामेव गगनाभाववच्छेदकत्वेन गृहीताधेयवतानिश्चयीप्रतिबन्धकतावत्तया जनकतायाः प्रतिबध्यताव्याप्यत्वात् । अनतिरिक्तवृत्तित्वकल्पे तु विशिष्टान्तरविषयित्वाव्यापकत्वस्य प्रतिबध्यतायामसत्त्वेन न दोषः इति वाच्यम् ॥ ४६ ॥

स्वनिरूपितजन्यतावच्छेदकावच्छिन्नजन्यतानिरूपितजनकतासंबन्धेन जनकताया व्याप्यत्वविवक्षणात् व्याप्यन्तरावगाहिज्ञानेऽपि उक्तसंबन्धेन उक्तजनकतावत्त्वेन तत्रोक्तप्रतिबन्धकताविरहेण दोषविरहात् ॥ ४७ ॥

नच तथापि गगनाभाववत्प्रतियोगिमतकालीनगगनाभाववदभावविशिष्टवत्कालीनगगनाभाववदभाववन्निरूपिताधेयताविशिष्टवत्कालीनगगनसाध्यके तादृशगगनाभावव्याप्याभावव्याप्यवत्पक्षे अतिव्याप्तिः । पक्षे गगनात्मकसाध्यसमानाधिकरणहेत्ववगाहिपरामर्शस्यापि प्रतिबन्धकत्वात् आधेयतायां अभाववन्निरूपितत्वोपादानमिति वाच्यम् ॥ ४८ ॥

साध्याभावव्यापकहेत्वभावप्रतियोगिहेतुमान्पक्षः इति ज्ञानस्य अनुमितिजनकतायां अवच्छेदककोटौ निरूप्यनिरूपकभावापन्नविषयताशालिनिश्चयत्वेन जनकतानिर्माणाय प्रतियोगित्वविषयताया अन्तर्भावोऽपि तादृशविषयतायां प्रतियोगितात्वावच्छिन्नत्वनिवेशे प्रयोजनविरहेण तदनिवेशात् साध्याभावव्यापकहेत्वभावाधिकरणहेतुमान्, तादृशहेत्वभाववृत्तिहेतुमान्, तादृशहेत्वभावविषयहेतुमान् इत्यादिज्ञानानामपि जनकत्वसत्त्वात् तत्र प्रतिबन्धकताविरहेणानुपपत्त्यभावात् ॥ ४९ ॥

नच तथापि आधेयत्वं गगनाभाववदभाववन्निरूपितत्ववत्कालीनगगनवदित्यादौ तादृशगगनाभावव्याप्याभावव्याप्यवदाधेयत्वे अतिव्याप्तिरिति वाच्यम् ॥ ५० ॥

तादृशानुमितित्वव्यापकप्रतिबध्यताविशिष्टजनकताया एव विरोध्यनुमितिजनकतेत्यनेन विवक्षितत्वात् । वैशिष्ट्यं, स्ववृत्तिभेदप्रतियोगितावच्छेदकत्वस्वनिरूपितप्रतिबन्धकतावच्छेदकविषयित्वावच्छिन्नानुमितिनिष्ठजन्यतानिरूपितत्वोभयसंबन्धेन । भेदप्रतियो-

गितावच्छेदकता स्वसमानाधिकरणभेदप्रतियोगितावच्छेदकत्वसंबन्धावच्छिन्ना । स्वाधिकरणत्वं स्वनिरूपितजन्यतावच्छेदकीभूतप्रकारताविशिष्टनिश्चयत्वसंबन्धेन । भेदप्रतियोगितावच्छेदकता स्वावच्छेदकावच्छिन्नप्रतिबध्यतानिरूपितप्रतिबन्धकतासंबन्धेन । निश्चये प्रकारतावैशिष्ट्यं स्वनिरूपिताधिकरणताविशिष्टत्वसंबन्धेन । अधिकरणता स्वविशिष्टप्रकारतानिरूपिताभावत्वावच्छिन्नप्रकारतानिरूपितनिरूपितत्वसंबन्धावच्छिन्नप्रकारतानिरूपितवृत्तित्वत्वावच्छिन्नप्रतियोगितासंबन्धावच्छिन्नप्रकारतात्वसंबन्धावच्छिन्ना । स्ववैशिष्ट्यं स्वावच्छेदकावच्छिन्नत्वस्वावच्छेदकसंबन्धावच्छिन्नप्रतियोगितासंबन्धावच्छिन्नत्वोभयसंबन्धेन । अधिकरणतावैशिष्ट्यं स्वाश्रयनिरूपकनिश्चयविशिष्टत्वस्वविशिष्टप्रकारतानिरूपकत्वोभयसंबन्धेन । निश्चयवैशिष्ट्यं सामानाधिकरण्यकालिकविशेषणत्वोभयसंबन्धेन । प्रकारतायां स्ववैशिष्ट्यं स्वाश्रयविशिष्टत्वस्वनिरूपकप्रकारतानिरूपितविशेष्यतावच्छेदकावच्छिन्नविशेष्यतानिरूपितत्वोभयसंबन्धेन । स्वाश्रयवैशिष्ट्यं स्वनिरूपिताभावत्वावच्छिन्नप्रकारतानिरूपितविशेष्यतावच्छेदकावच्छिन्नत्वस्ववृत्तिसंबन्धावच्छिन्नत्वोभयसंबन्धेन । वृत्तिश्च स्वनिष्ठप्रकारतानिरूपितावच्छिन्नत्वप्रकारतानिरूपितत्वसंबन्धेन । तथाच तादृग्गगनाभावव्याप्याभावाभावदवृत्तित्वेन गृहीतधर्मवृत्तानिश्चयस्याप्रतिबन्धकतया नोक्तदोषावसरः इति ॥ ५१ ॥

न च तथापि जलबद्धदो वह्निमानित्यत्र वह्न्यभावव्याप्यजलव्याप्यवज्जलबद्धदे अतिव्याप्तिरिति वाच्यम् ॥ ५२ ॥

स्वनिरूपितप्रतिबन्धकतावच्छेदकविषयित्वावच्छिन्नानुमितिनिष्ठजन्यतानिरूपितत्वस्य स्वविशिष्टजन्यतानिरूपितत्वरूपस्य निवेद्यत्वात् । वैशिष्ट्यं स्वनिरूपितप्रतिबन्धकतावच्छेदकविषयित्वावच्छिन्नत्वस्वविशिष्टानुमितिनिष्ठत्वोभयसंबन्धेन । स्ववैशिष्ट्यं स्वनिष्ठावच्छेदकताप्रतियोगिताकभेदवत्त्वसंबन्धेन । स्वनिष्ठावच्छेदकता स्वविशिष्टविषयितासंबन्धेन । विषयितायां स्ववैशिष्ट्यं स्वनिष्ठावच्छेदकताप्रतियोगिताकभेदवत्त्वसंबन्धेन । स्वनिष्ठावच्छेदकता स्वावच्छेदकावच्छिन्नप्रतिबन्धकतानिरूपितप्रतिबध्यतावच्छेदकत्वसंब-

टि.—१. हृदो वह्निमानित्यादौ सप्रतिपक्षे लक्षणसमन्वयकाले निरुक्तसंबन्धेन जनकताधिकरणत्वं वह्न्यभावाभावदवृत्ति जलमिति निश्चयविशिष्टे जलवान्हदः इति निश्चये बोध्यम् ।

न्वेन । तथा च बहुचभावव्याप्यजलवत्ताज्ञानस्य बहिमतानिश्चयाप्रतिबध्यत्वान्न दोषः ॥ ५३ ॥

न चैवमपि तत्रैव बहुचभावव्याप्यजलाभावव्याप्यवह्निकालीनत्वस्यापि पक्षविशेष-
णत्वे बहुचभावव्याप्यजलव्याप्यवत्तादृशपक्षे अतिव्याप्तिरिति वाच्यम् ॥ ५४ ॥

स्वनिरूपितप्रतिबन्धकतावच्छेदकविषयित्वावच्छिन्नपक्षतावच्छेदकविशिष्टानुमिति-
निष्ठजन्यतानिरूपितत्वस्यैव निवेश्यत्वात् । अनुमितौ पक्षतावच्छेदकवैशिष्ट्यं स्वनिष्ठाव-
च्छेदकताकप्रतियोगिताकभेदवत्त्वसंबन्धेन । स्वनिष्ठावच्छेदकता स्वविशिष्टविषयितासं-
बन्धावच्छिन्ना । विषयितायां स्ववैशिष्ट्यं स्वनिष्ठावच्छेदकताकप्रतियोगिताकभेदवत्त्वसं-
बन्धेन । स्वनिष्ठावच्छेदकता स्वविशिष्टभेदप्रतियोगितावच्छेदकत्वसंबन्धावच्छिन्ना । भेदे
स्ववैशिष्ट्यं स्वविशिष्टप्रकारताविशिष्टत्वसंबन्धेन । प्रकारतायां स्ववैशिष्ट्यं स्वसमानाधि-
करणेत्यादिभेदवत्त्वसंबन्धेन । स्वाधिकरणत्वं स्वावच्छिन्नविशेष्यतानिरूपितसाध्यताव-
च्छेदकावच्छिन्नप्रकारत्वसाध्यव्याप्यहेतुतावच्छेदकावच्छिन्नप्रकारत्वोभयनिरूपकत्वसंबन्धेन ।
भेदप्रतियोगितावच्छेदकता स्वविशिष्टविशेष्यतानिरूपकत्वसंबन्धेन । विशेष्यतायां
स्ववैशिष्ट्यं स्वनिरूपितविशेष्यतावच्छेदकावच्छिन्नत्वस्वविशिष्टप्रकारतानिरूपितत्वोभयसं-
बन्धेन । स्ववैशिष्ट्यं स्वावच्छेदकावच्छिन्नत्वस्वावच्छेदकसंबन्धावच्छिन्नत्वोभयसंबन्धेन ।
स्वविशिष्टप्रकारताविशिष्टेत्यत्र प्रकारतावैशिष्ट्यं स्वविशिष्टप्रकारताविशिष्टत्वसंबन्धेन ।
प्रकारतावैशिष्ट्यं स्वावच्छिन्नप्रतियोगिताकत्वसंबन्धेन । स्ववैशिष्ट्यं स्वनिरूपित-
विशेष्यतावच्छेदकावच्छिन्नविशेष्यतानिरूपितत्वस्वनिष्ठावच्छेदकताकप्रतियोगिताकभेदवत्त्वो-
भयसंबन्धेन । स्वनिष्ठावच्छेदकता स्वसमानाधिकरणभेदप्रतियोगितावच्छेदकत्वसंबन्धेन ।
स्वाधिकरणता स्वविशिष्टप्रकारतानिरूपितविशेष्यतावच्छेदकतानिरूपकत्वसंबन्धेन । प्रकार-
तायां स्ववैशिष्ट्यं स्वावच्छेदकसंबन्धावच्छिन्नत्वस्वावच्छेदकावच्छिन्नत्वोभयसंबन्धेन ।
भेदप्रतियोगितावच्छेदकता स्वविशिष्टप्रकारताविशिष्टप्रतिबध्यतानिरूपितप्रतिबन्धकता-
संबन्धेन । स्ववैशिष्ट्यं स्वावच्छेदकधर्मसंबन्धावच्छिन्नत्वसंबन्धेन । प्रतिबध्यतायां प्रकार-
तावैशिष्ट्यं स्वसमानाधिकरणेत्यादिभेदवत्त्वसंबन्धेन । स्वाधिकरणता भेदप्रतियोगितावच्छे-

दकता च स्वरूपसंबन्धेन । तथाच घटो वह्निमान् पटो वह्निमानित्यादिज्ञानानां घटो वह्न्यभावव्याप्यजलवानिति ज्ञानाप्रतिबन्धकतया नोक्तदोषावसरः इति ॥ ५५ ॥

न च तथापि जलवद्भूदः वह्न्यभावव्याप्याभावव्याप्यवह्निमान् इत्यत्र वह्न्यभावव्याप्यजलव्याप्यवज्जलवद्भूदे अतिव्याप्तिरिति वाच्यम् ॥ ५६ ॥

संबन्धघटकप्रतिबन्धकतायां ज्ञानवैशिष्ट्यानवच्छिन्नत्वनिवेशात् । यत्तु घटः अभावव्यापकीभूताभावप्रतियोगिगगनवानित्यत्र साध्याभाववत्ताबुद्धौ साध्यवत्ताज्ञानस्य ज्ञानविशिष्टज्ञानत्वेनैव प्रतिबन्धकतया सत्प्रतिपक्षाव्याप्तिरिति । तन्न । यतः अभाववत्ताबुद्धौ अभावाभाववत्तानिश्चयस्येव अभावाभावव्याप्यवत्तानिश्चयस्यापि न प्रतिबन्धकता विषयविरोधविरहात् । ततश्च अभावाभावव्याप्तिनिश्चयविशेषरूपस्य अभावव्यापकीभूताभावप्रतियोगिगगनवत्तानिश्चयस्य नाभाववत्ताज्ञानप्रतिबन्धकतेति तादृशगगनाभावबुद्धौ तादृशगगनवत्तानिश्चयस्य पृथगेव प्रतिबन्धकताया आवश्यकतया नोक्तदोषावकाशः इति दिक् ॥ ५७ ॥

नच तथापि घटो गगनाभाववदभाववत्कालीनगगनवानित्यत्र तादृशगगनाभाववद्भूतरूपबाधाव्याप्तिः । तत्र क्लृप्तज्ञानवैशिष्ट्यावच्छिन्नप्रतिबन्धकतयैवोपपत्तौ तदनवच्छिन्नप्रतिबन्धकतान्तरे मानाभावात् । यत्तु अभाववति गगनाभावो व्याप्यवृत्तिरिति ज्ञानकालेऽपि विशिष्टगगनाभाववत्तानिश्चयस्य प्रतिबन्धकत्वानुरोधेन ज्ञानवैशिष्ट्यानवच्छिन्नप्रतिबन्धकत्वस्याप्यावश्यकतया नोक्तदोषावकाश इति । तन्न । अभावव्यापकत्वस्य प्रतियोगिवैयधिकरण्याघटितस्य संसर्गघटकत्वे अव्याप्यवृत्तित्वज्ञानस्य तत्रानुत्तेजकतया तत्र प्रतिबन्धकान्तरविरहेण इहाव्याप्तिस्त्वादिति वाच्यम् ॥ ५८ ॥

तादृशसमूहालम्बनानुमितित्वव्यापकप्रतिबन्धकतानिरूपितप्रतिबन्धत्वघटितान्यतमे यद्गोपावच्छिन्ननिरूपकताविषयित्वव्यापकत्वस्य निवेश्यत्वात् । यद्यप्येवं सति वह्न्यव्या-

टि.—१. अनुगमतात्पर्यम्—पक्षतावच्छेदकव्यापिका या प्रकारता हृदो वह्न्यमानिति ज्ञानीयवह्निप्रकारता तन्निरूपितविशेष्यतावच्छेदकावच्छिन्नविशेष्यतानिरूपिता तद्व्यापिका च या प्रकारता हृदो वह्न्यभाववानिति ज्ञानीया तद्वच्छिन्नभेदप्रतियोगितानवच्छेदकविषयिताश्चान्यत्वमिति ।

प्यसाध्यके वह्यभाववत्पक्षे अतिव्याप्तिः । तथापि तादृशप्रतिबन्धकताविशिष्टप्रतिबध्यताया एव निवेशनीयतया न दोषः । प्रतिबन्धकतावैशिष्ट्यं स्वावच्छेदकावच्छिन्नप्रतिबध्यतानिरूपितप्रतिबन्धकतावच्छेदकविषयित्वावच्छिन्नत्वस्वनिरूपितत्वोभयसंबन्धेन । तथा च वहिव्याप्यवत्ताज्ञाने वह्यभाववत्ताज्ञानस्याप्रतिबन्धकतया न दोषः ॥ ५९ ॥

न च स्वावच्छेदकावच्छिन्नत्वं यदि स्वावच्छेदकतापर्याप्त्यधिकरणपर्याप्तावच्छेदकताकत्वं तदा असंभवः । यदि स्वावच्छेदकनिष्ठावच्छेदकताकत्वरूपं तदा तादृशज्ञानत्वावच्छिन्नत्वस्य सार्वत्रिकतया अव्यावर्तकता । स्वावच्छेदकविषयित्वावच्छिन्नत्वरूपत्वेऽपि वहिव्याप्यवह्मिति ज्ञानीयविषयितामादाय वह्यभाववद्भूतातिव्याप्तितादवस्थमिति वाच्यम् ॥ ६० ॥

स्वाश्रयानुमितित्वव्यापकप्रतिबध्यतानिरूपितप्रतिबन्धकताव्याप्यत्वस्वनिरूपितत्वोभयसंबन्धेन प्रतिबन्धकतावैशिष्ट्यस्य निवेश्यत्वात् । वहिव्याप्याभाववद्दह्यभाववत्कालीनहृदपक्षके वहिव्याप्यसाध्यके वह्यभाववत्तादृशहृदे अतिव्याप्तिस्तु पक्षद्वयेऽपि समाना । यद्वा पक्षतावच्छेदकविशिष्टप्रतिबध्यतानिवेशान्न दोषः । पक्षतावच्छेदकवैशिष्ट्यं स्वविशिष्टप्रकारताविशिष्टत्वसंबन्धेन । प्रकारतायां स्ववैशिष्ट्यं स्वसमानाधिकरणेत्यादिभेदवत्त्वसंबन्धेन । स्वाधिकरणत्वं स्वावच्छिन्नविशेष्यतेत्याद्युभयनिरूपकत्वसंबन्धेन । भेदप्रतियोगितावच्छेदकता प्रागुक्तस्वविशिष्टविशेष्यतानिरूपकत्वसंबन्धेन । प्रकारतावैशिष्ट्यं स्वविशिष्टप्रतिबन्धकतानिरूपकत्वस्ववृत्तिभेदप्रतियोगितावच्छेदकत्वोभयसंबन्धेन । वैशिष्ट्यं स्वसमानाधिकरणेत्यादिभेदवत्त्वसंबन्धेन । स्वाधिकरणता निरूपकतासंबन्धेन । भेदप्रतियोगितावच्छेदकता स्वरूपसंबन्धेन । स्ववृत्तिभेदप्रतियोगितावच्छेदकता स्वसमानाधिकरणभेदप्रतियोगितावच्छेदकतासंबन्धेन । स्वाधिकरणता स्वरूपसंबन्धेन । भेदप्रतियोगितावच्छेदकता स्वविशिष्टविशेष्यतानिरूपकत्वसंबन्धेन । विशेष्यतायां वैशिष्ट्यं स्वनि-

टि.—१. अनतिरिक्तवृत्तिस्वनिवेशपक्षे विशिष्टद्वयाघटितत्वशरीरे बाधविशेषान्यासिवारणाय प्रकृतानुमितिप्रतिबध्यतानवच्छेदकत्वस्य विशिष्टद्वयविषयितायां निवेशावश्यकतया तुल्योऽर्थदोषपरिहारः ।

रूपितविशेष्यतावच्छेदकावच्छिन्नत्वस्ववृत्तिभेदप्रतियोगितावच्छेदकप्रकारतानिरूपितत्वोभय-
संबन्धेन । अवच्छेदकता स्वसमानाधिकरणभेदप्रतियोगितावच्छेदकतासंबन्धेन । स्वाधि-
करणता स्वविशिष्टप्रकारतानिरूपितविशेष्यतावच्छेदकतानिरूपकनिश्चयत्वसंबन्धेन । भेद-
प्रतियोगितावच्छेदकता स्वविशिष्टप्रकारताविशिष्टप्रतिबध्यतानिरूपितप्रतिबन्धकतासंबन्धेन ।
प्रकारतायां स्ववैशिष्ट्यं स्वावच्छेदकधर्मसंबन्धावच्छिन्नत्वसंबन्धेन । प्रकारतावैशिष्ट्यं व्या-
पकतासंबन्धेन ॥ ६१ ॥

न च तथापि हृदो वह्न्यभाववज्जलवद्वृत्तिजलाभावव्याप्यवह्निमानित्यत्र वह्न्यभाव-
वज्जलवद्वृत्तिजलवद्भूदे अतिव्याप्तिरिति वाच्यम् ॥ ६२ ॥

स्वविशिष्टप्रतिबन्धकतानिरूपितत्वस्ववृत्तिभेदप्रतियोगितावच्छेदकत्वोभयसंबन्धे अन्त-
र्गतस्ववैशिष्ट्यस्य स्वव्याप्यत्वरूपतया दोषविरहात् । शेषं विशिष्टद्वयाघटितत्वविचाररीत्या
अवधेयमिति दिक् ॥ ६३ ॥

॥ इति अवच्छेदकतासरः समाप्तः ॥

University Notes

FOUNDER'S DAY:

The Eleventh Founder's Day was celebrated on the 12th October, 1940 Sir R K Shanmukham Chettiar, Dewan of Cochin, delivered the address

CONVOCATION:

The Tenth Annual Convocation was held on Saturday the 16th November, 1940. His Excellency Captain the Hon. Sir Arthur Oswald James Hope, Chancellor of the University, presided. Sir Lionel Leach, Chief Justice of the Madras High Court, delivered the address to the graduates of the year.

ENDOWMENTS:

1 Our Pro-Chancellor, Raja Sir Annamalai Chettiar, Kt., L.L.D. Raja of Chettinad, announced a gift of Rs. 12,500 to be utilised in the form of prizes. Of this Rs 10,000 is to be set apart for the encouragement of Composition of Tamil Poems. The rest of the money is to be utilised for giving prizes in the names of (1) His Excellency Sir Arthur Hope, (2) Sir Lionel Leach, (3) Sir R. K. Shanmukham Chettiar and (4) Sir K V. Reddi Naidu Garu. Apart from the original contribution he made to this institution by handing over three collegiate institutions and a handsome donation of Rs. 20 lakhs to form the nucleus of this University, our founder has been generous in giving various endowments from time to time. We are deeply grateful to him for his great munificence and generosity.

2. The Raja Raja Abhaya Kulasekara Chola Maharaja Memorial Endowment by His Holiness Srila Sri Kasivasi Swaminatha Thambiran Swamigal Avergal: (Thevara Tirumurai Prize and Publication of works of Tamil Literature and Grammar. Present Annual income Rs. 550+Rs. 1,250).

The object of the Endowment is to foster the growth of the Science of Tamil Music in the Thevara Tirumurais and publish works of Tamil Literature and Grammar.

This endowment was founded by His Holiness Srila Sri Kasivasi Swaminatha Thambiran Swamigal Avergal of Tiruppanandal to per-

petuate the memory of Raja Raja Abhaya Kulasehara Chola Maharaja Avergal, due to whose solicitude the Thevara Tirumurais have been preserved to the world.

The Endowment consists of 114.3 acres of wet and 4.72 acres of Dry land (i.e.) 118 acres 75 cents, in Kayalur, Melasethi, forming parts of vettoms 21 and 23 of Sirugudi and Kilmarudur of Kumbakonam Taluk, Tanjore District, now in the sole enjoyment of His Holiness. The present value of the property is Rs. 75,000 and the net annual income is Rs. 1,750 at present market rates. Rs. 500 out of this sum shall be set apart for a Prize and the rest shall be utilised for publication of Tamil Works of Literature and grammar.

ACKNOWLEDGMENTS

Brown University, Rhode Island :

Selected topics in function theory of a complex variable by Otto Syasz.

Theory of abstract spaces by David Tamarkin

The Service

Lingnan Science Journal, Vol. 19, No. 1.

The Modern Student

The Empire Times

Madras Y.M.C.A. Bulletin

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The Journal of the Greater India Society

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Travaux de l'Institut Mathématique de Tbilissi I

Académie des Sciences de l'U. R. S. S.—Filial Georgienne

On the Devonian Coelacanthids of Germany with special reference to the Dermal Skeletar (Stockholm).

Ethnology, Folklore and Archaeology in the U.S.S.R.

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Man in India, Volume XVIII, Decr. '39

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The Modern Education Society, Poona, Annual Report.
Madras Youngmen.
The Jaina Antiquary, Vol. IV, No. 11.
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An Hand Von Elektroneninterferenzen Studiert.
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Printed and published by G. Srinivasachari, B.A., at G. S. Press, 21, Narasinga-
puram Street, Mount Road, Madras.

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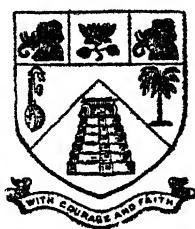
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JOURNAL

OF THE

ANNAMALAI UNIVERSITY

VOL. X

MARCH, 1941

NO. 3

Some Problems of Higher Education in India

By

A. C. SUBRAHMANYAN,
(*Annamalai University.*)

In the present century, higher education has been taking giant strides. There were only five universities in India in 1915; between 1916 and 1920 seven more were added; and the two decades since have seen the birth of another seven; so that the total number of universities in India now stands at 19.* Similarly, the total number of students in Universities and colleges in British India in 1920 was 61,225 while the total number for 1937 is 128,623. This growth in the number of Universities and in the number of University scholars shows clearly a greater appreciation in the country of the value of higher education. And Universities too, in their turn, have increased very much the scope of their activities. In the 19th century they were content to be merely examining bodies granting degrees to persons who had acquired sufficient proficiency in different branches of learning; and these persons mostly entered the services of government which were then open to them. The idea of teaching, residential and unitary universities came to public attention in the days of Lord Curzon; and the passing of the Indian Universities Act of 1904, the resolution of the Government of India on Indian Educational Policy in 1913 and the Report of the Calcutta University Commission in 1919 became landmarks in the progress of higher

*The University of Rangoon is included in this computation

education in the country. Universities have recognised the need for organizing departments of study and turning themselves more and more into centres of culture which provide facilities for advanced instruction and research, with libraries, laboratories and other accessories for the spread and advance of learning. Universities today are stressing the need for training the young men who are committed to their care and for moulding their character. They endeavour to give personal attention, atleast, to the advanced students. But still a large part of their energies is taken off for the imparting of mass instruction to undergraduate students. More attention has to be paid to post-graduate work and greater encouragement given to higher research if India is to keep pace with the advanced countries of the world. A glance at the following table will make the position clear:—

About 8·4% of the students in Universities are Post-graduates and ·1% are engaged in research. It must also be remembered that most of the post-graduate students are to be found in the professional colleges. It is true most of the Universities have instituted advanced research degrees; but the number of candidates who take these high degrees is very limited. The figures in the above table show that in one year approximately six candidates qualified themselves for M. Litt., eleven for Ph.D., two for D.Litt., four for D.Phil., seventeen for M.Sc., and twenty for D.Sc., bringing the total only to 56. Some Universities—notably Calcutta and Madras—have large numbers of post-graduate departments and adequate facilities for research and publication; there are also others where there are no fulltime University Professors and no research degrees. No doubt some Universities have definitely kept before themselves the needs of the community. The Bombay University, for instance, has a department of chemical technology one of whose definite aims is to form a link between science and industry. So too its department of Sociology is designed to meet definite needs. The Travancore University—the youngest University in the land—has as its definite aim research in applied science—especially in Biochemistry, Marine Biology and Fisheries—designed to promote the industries of the Travancore State. This University has a department specially devoted to publications in Malayalam and Tamil. Special attention is paid in the Osmania University to the publication of Urdu books and the Mysore and Annamalai Universities have led the way in the promotion of Kannada and Tamil studies respectively. Even apart from the Universities, research work of the greatest importance is being conducted in the Indian Institute of Science at Bangalore, the Bhandarkar Oriental Research Institute at Poona and the Bose Research Institute at Calcutta. Though much has been done yet still more remains

S. No	Name of University.	No. of students.	Post-graduates	No. of students engaged in research	Research Degrees Arts	Degrees Science	Publications.
1.	Agra	4246	1608				University Journal
2.	Aligarh	1674	562		2 (Ph.D.)		
3.	Andhra	4487	136				
4.	Allahabad	2217	653	16	4 (D.Phil.)	6 (D.Sc.)	University Studies
5.	Annamalai	983	40	21 (1 Fellowship)	2 (M. Litt.)	4 (M.Sc.)	16 books Research Journal
6.	Benares	3385	460				University Journal
7.	Bombay	18193	904	12	1 (D. Litt.)	1 (D.Sc.)	Publications University Journal
8	Calcutta	35357	1611		1 (Ph.D.)	6 (D.Sc.)	Publications 400
9	Dacca	1691	528	2	1 (Ph.D.)	2 (D.Sc.)	Dacca University Studies
10	Delhi	2609	116	1 (Fellow in Economics)			No publications
11.	Lucknow	2429	377	12 (Fellowships)			
12	Madras	12076	1164	40	1 (D. Litt.)	5 (D.Sc.)	135 books
13.	Mysore	3418	59		4 (M. Litt.)	13 (M.Sc.)	University Journal
14.	Nagpur	3801	757				14 books
15	Osmania	1461	175				University Journal
16.	Panjab	17447	793	8	7 (Ph.D.)		400 books Research Journal
17.	Patna	5926	438				
18.	Rangoon	1950	56		No research degree offered		37 Lectures
19	Travancore	2984	230	8			13 Lectures
Total		126092	10667	138	17	30	
						13	

This table has been compiled from figures from Handbook of Indian Universities ; Inter University Board 1940 ; also from Eleventh Quinquennial Review.

to be done. And in setting about this a study of the methods and organization of graduate studies in the United States will be instructive.

In the middle of the last century a similar problem confronted the educationists of the United States of America. In 1869 the National Teachers' Association of the States recommended the establishment of institutions to provide advanced education mainly or exclusively on the graduate level and to enlarge the boundaries of human knowledge by means of researches and investigations. Prominent educational leaders felt that there should be established in America, Universities like those on the continent of Europe, Universities exclusively devoted to post-graduate teaching and research. These institutions should bring together the greatest scholars and scientists and the students who are best fitted to be trained in methods of research. They should aim at two things, increasing the sum-total of human knowledge and training workers capable of it. "Wherever such teachers and such pupils are pursuing the most generous culture of a civilized age, there are the essential constituents of a University." Philip Tappan, President of the Michigan University, declared that there was great difference between mere professional and technical education and that 'large and generous culture which brings out the whole man and commits him to the active life with the capacity of estimating from the highest point of view all the knowledges and agencies which enter into the well-being and progress of society.' According to him the most practical education was that which fitted men best for practice; and not that which led men most directly to practice. Professor Burgess of the Columbia University was also of the same view. The progressive understanding of truth must depend on free and untrammelled individual research and complete freedom of imparting its results. Even then there were facilities for post-graduate work at Harvard, Yale, Michigan and Columbia but higher education took a new and progressive turn in America when the Johns Hopkins University, Baltimore, Maryland was established in 1876, the Clark University, Worcester, Massachusetts, in 1888 and the University of Chicago in 1890.

The first of these was the result of a large benefaction by a Quaker merchant of Baltimore, named Johns Hopkins. The authorities of the University wanted to establish a new institution on a new plan, an institution capable of meeting the educational requirements of the land without entering into any competition with other foundations. They wanted to give a strong impetus to learning and culture—first in Baltimore, then in Maryland and other Southern States, and, finally, throughout the entire land. Their aim was to promote public welfare so far as it may depend on university influences.

At the inauguration of the University in 1876 President Eliot of Harvard observed that 'Universities, wisely directed, store up the intellectual capital of the race, and become fountains of spiritual and moral power.' Referring to the new venture he said "Here may young feet, shunning the sordid paths of low desire and worldly ambition, walk humbly in the steps of the illustrious dead—the poets, artists, philosophers, and statesmen of the past; here may fresh minds explore new fields and increase the sum of knowledge; here, from time to time, may great men be trained up to be leaders of the people; here may the irradiating light of genius sometimes flash out to rejoice mankind; above all here may many generations of manly youth learn righteousness." Professor Thomas Huxley, the great scientist who opened the University urged the authorities to provide wide opportunities for study and research in history, physical sciences and creative arts. One of the prime functions of a University was 'to increase the stock of knowledge by the investigation of truth.' Only ideas matter in the world. "The future of this world lies in the hands of those men who will supply the world with ideas and in some way furnish the mass of mankind who have not the time or inclination or the capacity to think out things for themselves with some theory of things that is not too absolutely inconsistent or too absolutely absurd to serve some practical purpose." According to Huxley the highest duty of a University is to find a system that would discuss and protect the powers of artistic creation and the investigation of new truths which formed the two great aspects of the creative and investigative human mind. It should aim to supply the democratic state with individual citizens possessing 'intellectual clearness' and 'moral worth'. From the beginning the President of the University, Professor Gilman, wanted the institution to supply to the nation intellectual training of a higher order than could be obtained then at any other American College or University. It would be a tragedy if a University produces learned pedants, or simple artisans or cunning or pretentious practitioners. "Its purpose is not so much to impart knowledge to the pupils, as to whet the appetite, exhibit methods, develop powers, strengthen judgment, and invigorate the intellectual and moral forces." It should aim at imparting a knowledge of principles and not merely of methods and at training a class of students who would be thoughtful, enlightened and progressive guides to society in whatever department of work or thought they may be engaged. President Gilman felt that as a result of the activities of the University, society must be definitely benefited; it should be impressed by the value of learning; its intellectual and moral growth should be stimulated; it should understand the world better. There should be less ignorance in schools, less bigotry in the temples,

less suffering in the hospitals, less starvation in the homes, less folly in politics. There should be more study of nature, more love of art, more health, more wisdom, more happiness in the country.

From the beginning the founder and trustees gave President Gilman a free hand. Dr. Gilman, was a scholar of ripe experience and the first thing he did after his appointment was to visit Europe once again in the interests of the new University. Prohibited by the terms of its grant from plunging immediately into an elaborate building programme the new University gave special attention to securing teaching staff and students. They wanted the ablest minds. Buildings could wait; even schemes of examination, instruction and graduation. In the selection of staff the trustees considered specially 'the devotion of the candidate to some particular line of study and the certainty of his eminence in that speciality'. He must pursue independent and original investigation and inspire the young with enthusiasm for study and research. They wanted the best men, men free from the tendency to sectional controversies, men willing to co-operate in trying a new experiment. When selected the head of a department was allowed considerable freedom in its development. Provided he worked in concord with his fellows he could select his own assistants, choose his own books and apparatus and devise his own plans of study. The work of the professors was supplemented by lectures by distinguished visitors from other institutions.

In regard to students they cared less for numbers than for merit. When the University opened it enrolled forty young men as associate fellows and resident graduates. A good many of them were advanced students who had taken high degrees in Europe and America. President Gilman was of opinion that invariably the best scholars are those who specialise after a broad and liberal education and the best teachers, those who combine teaching and research. Many Americans distinguished in life have been connected with Johns Hopkins. "The first requisite to success in any institution is a body of professors each of whom gives freely the best of which he is capable. A University can best promote learning by allowing its teachers a liberal margin for private study. While a good deal of freedom was allowed in teaching the President evinced a keen interest in the work of individual members. Professor Stanley Hall observes thus of Gilman: "He loved to know something of their every new investigation however remote from his own speciality, and every scientific or scholarly success felt the stimulus of his sympathy. His unerring judgment of men was triumphantly justified in the achievements of those he appointed. He was a spiritual father of many of his faculty, the author of their careers, and for years made the institution the paradise and seminarium of young specialists. This made

stagnation impossible, and the growth of professors there in their work was, I believe, without precedent."

Dr. Gilman held that all sciences were worthy of promotion, that there was no conflict between religion and science; that in the promotion of science remote utility was quite as worthy to be thought of as immediate advantage. However, a University as also its scholars, must select particular subjects for special pursuit. In the methods of work in study and teaching the utmost freedom must be allowed to student and teacher.

According to a graduate student of the University the most remarkable thing about Johns Hopkins was the freedom of access to teachers and the stimulus afforded by contact with mature minds. Other noteworthy features of the institution are the visiting lecturer plan, the seminar system and the special attention paid to the publication of scientific and scholarly journals. By the visiting lecturer plan some distinguished professor of another University was invited to deliver a course of lectures, often times for a period sufficient to make the lecturer in a real sense a part of the University. This served more than one purpose, it familiarized the members with the work done in other foundations; it gave publicity to the work done in the institution and enabled it to get direction and advice whenever necessary. Most often it was a course of twenty lectures, delivered every evening at 5 o'clock attended by about 150 listeners, open to all who wished to hear, whether students or not. The lecturers were accessible to all who wished to consult them. The introduction into the academic circle of 'men from other Universities, observing, critical, suggestive, familiar with different ways, looking perhaps, for colleagues or for assistants, asking help, answering questions, showing methods, provided richness and colour and solid intellectual quality. The presence for brief periods of a large number of associates, readers or assistants who secured higher appointment there or elsewhere strengthened the University and made its work known wherever scholarship was esteemed. The seminar or study circle is a group of teachers and students who meet regularly for the study of a particular subject. The meetings are arranged near the library to which all have access at other hours. A lecture is delivered, questions are asked, comments are made, a demonstration is given, a paper is read and thus the study is promoted in an informal but effective manner. The University, in addition, published six scholarly and scientific journals including *Modern Language Notes*. Thus it aimed to spread abroad the results of the researches of its teachers and students and make them of practical use to the nation.

The Clark University, at Worcester, Massachusetts was started in 1888 by the munificence of a businessman named Jonas Gilman Clark. It is a graduate institution which aimed at selecting rigorously the best students, seeking to train leaders only, educating professors and advancing science by new discoveries. Stanley Hall, the president, wanted the institution to be of the highest and most advanced grade with special prominence given to original research. He desired to secure the most talented and best trained young men. He declared, "We are not a graduate department in which most so-called graduate students attend and most professors conduct undergraduate work. We are a school for professors where leisure, method and incentive, train select men to higher and more productive efficiency than before" Hall had been professor of experimental psychology at Johns Hopkins before he was appointed at Worcester and there is a certain similarity in methods, organization and aim between Clark and Johns Hopkins.

Like Gilman, Hall too toured the Continent before he entered on his new duties. He chose an extraordinarily gifted group of teachers and designed his institution mostly for candidates for the Doctor's degree. From the very beginning the University was widely acclaimed and accomplished work of a high order. It left an indelible impress on the educational effort of the country; it influenced every institution from University to kindergarten and quickened the pulse of educational thought. The success of the experiment demonstrated the wisdom of running an institution devoted exclusively to graduate work with a limited number of selected students. It gave the country a new type of institution having no under-graduate students, with no problems of classes, dormitories or discipline moreover it enabled Americans to receive the highest form of training and culture without going to Europe. By 1901 Clark men had won positions for themselves in the faculties or teaching staff of Harvard, Yale, Johns Hopkins, Columbia, Chicago, California, Toronto and in scores of other institutions.

At Clark as at Hopkins we see the determination to meet urgent contemporary needs by the application of science to useful arts. No tradition was to be respected which did not promote this end. Here too there was insistence on quality in teacher and student, on funds to carry on the work, on time and leisure for research and freedom to work in one's own way. The inscription at the entrance to the work-room of the school of geography in the University is typical: "The very best kind of education is obtained in doing things one's self under competent direction and with good guidance." The teachers were friendly guides to their students and every student was made to feel that he stood for something. President Hall wanted to do everything possible for

instructors to do for the students who were received within the portals of the University. They should be guided to the best books and to the best methods of work known to the instructor. In fact he should share with his students all his hopes and plans for research. The very attitude of research is a great education to the advanced student, it stimulates effort, quickens initiative, strengthens the will and creates independent judgment and action which are the culmination of culture. Nothing can be more inspiring than the instruction given to a select few by an investigator who stands at the elbow of discovery, feeling the heat and light which attend it.

Hall complained that Americans had not yet understood the true spirit of teaching. "When we have a thoughtful investigating man who has come to be two and twenty, has the fulness of his power, and is eager to keep up his studies, we turn him out of our college, and say, 'we have nothing more for you.' And when we have a man who is determined to devote his life for others, we thank him and say 'we will make you a professor in a college, we will give you fifteen hundred dollars a year, while with your ability you would earn fifteen thousand somewhere else.' And then we set him to teaching boys of eighteen the difference between the subjunctive and the optative, or showing them the mistakes they have made in their German exercises where they have put in a masculine article instead of a feminine." It is true that the well-furnished bachelor of arts feels helpless when he is turned to creative research after long familiarity with passive receptiveness, he needs personal direction and management. "But when the new powers are once acquired they are veritable regeneration. He scorns the mere luxury of knowing, and wishes to achieve, to become an authority and not an echo. His ambition is to know how it looks near and beyond the frontier of knowledge, and to wrest if possible a new inch of territory from the realm of chaos and old night, and this becomes a new and consuming passion which makes him feel a certain kinship with the creative minds of all ages, and having contributed ever so little, he realizes for the first time what true intellectual freedom is, and attains intellectual manhood and maturity. This thrill of discovery, once felt, is the royal accolade of science, which says to the novice, 'stand erect, look about you, that henceforth you may light your own way with independent knowledge'".

Scholars at Worcester have also felt the magic spell of Hall's inspiring personality and have regarded his seminars as the most striking feature of the Clark University. At Worcester the human side of University enterprise was uppermost and routine and red tape were at a minimum.

The University of Chicago which came into existence in 1890 as a result of the munificence of the merchant prince John D. Rockefeller has also made a distinct contribution to higher education in America. According to Harper, its first President, the main energies of the institution have been directed towards graduate work. According to Dr. Strong, one of its inspirers, a true University is an institution for advanced and professional studies. Its central feature is a comprehensive fellowship system; Oxford has 311 fellowships and 346 scholarships while Cambridge has 335 fellowships and 795 scholarships. President Harper, envisaged three divisions of University work:—1. Teaching and research 2. Extension work. 3. Publications.

Harper also aimed, as Gilman and Hall had done, at freeing students and faculty from the handicaps of traditional college and enable them to live and work in an atmosphere of scholarship and research. He too realised the importance of the human element and the necessity for adequate leisure for the teachers. Dr. Harper and the trustees of Chicago wanted to bring together the largest possible number of men who were already distinguished by their research, representing different types of training and different sets of ideas, thus providing richness and diversity to the ultimate constitution of the University. A noteworthy feature of Chicago was the presence of women in the faculty and the class room. Like Hall, Harper too fully understood the necessity for meeting the needs of the time and the importance of utilizing science for economic and social development. 'It is not enough that instructors in a University should merely do the class and lecture work assigned to them . . . The University, including every member of the University, owes to the world at large a duty which cannot be discharged in the ordinary class room exercise. The true University is the centre of thought on every problem connected with human life and work, and the first obligation resting on individual members which compose it is that of research and investigation.' Its true function is the resolving of the problems of civilization; and this requires men of the greatest genius and culture. Dr. Harper stood for absolute freedom from interference by church or state, though such freedom may be abused. He maintained that the ultimate worth of scholarship lay not in its prestige with scholars but in its value to human life. The University of Chicago paid more attention to publication and extension work than any other American foundation. It is remarkable that of the four Americans who won Nobel prizes in Science in the first 25 years of Nobel awards three were members of the faculty of Chicago. And no wonder the University was a great success from its very inception.

In spite of its large enrolment the authorities of the University declared as late as 1925 that the value of a University is to be mea-

sured not by numbers but by the quality of its work and its contributions to knowledge and educational training and practice. "The aim of the Graduate School (at Chicago) is two fold—first research for the sake of the discoveries that will thus be made and second the education of students in methods of research and teachers who will train others to follow in their footsteps.

It is the spirit of research the eager and organized effort to enlarge the area of human knowledge to replace guesses by certainties, to open new areas of knowledge that is the most characteristic work of the modern University. We shall still try to know what men of the past thought because we appreciate that all increase of knowledge comes by an evolutionary process advancing step by step but our emphasis will always be on the facts accurately observed, and our ultimate appeal will always be to them."

American higher education has not greater achievements to its credit than Johns Hopkins, Clark and Chicago. And in essence the methods and organization of these three seats of learning followed similar lines. First came the insistence on the importance of original research, next, the recognition of the value of the personal element; and thirdly the efforts to make education meet the needs of the time. The special methods pursued were the visiting lecturer plan, the seminar system and the establishment of scholarly journals and the publication of valuable books.

If the Universities of India are to be able to give a training to young men which would fit them to occupy the highest positions in the realms of thought and action they must take a planned and concerted step forward along these lines. And the scope for research and the need for training are almost unlimited in India. Young men and women have still to go to foreign countries for receiving the highest training in the study and investigation of their subjects. The highest positions in Universities and public services have not yet been manned in any considerable numbers by those who have received all their education in India. And the problems that confront our country are many and baffling. It has been suggested that it is the task of the Universities to evolve a formula which will reconcile the claims of rival interests in a future constitution for the Government of India. It has been recognised on all hands that in the harnessing of science to industry, in the development of the material resources of the country, in improving the standard of life of the people, in discovering the cause and cure of diseases most prevalent in the land we have as yet touched only the fringe of the problem. Again there are the problems connected with a new interpretation of our history and culture.

It is sometimes contended that the study of English and foreign languages in India is valuable only for the information they convey. Even if this were so, these languages enshrine the most advanced knowledge that humanity possesses in modern times. Apart from this the study of foreign literature should be a guide to the improvement and development of Indian languages. The importance of the study of foreign languages for Indian linguistics can scarcely be over-estimated. Whether creative work in English and foreign languages is possible or ought to be attempted by Indians is a much debated point. But there can be no question that Indians can attempt critical studies of foreign works and make thus a substantial contribution to their critical literature; and what is more the study of Indian literature in the light of foreign modes of critical approach will be of undoubted benefit to the appreciation and improvement of the languages of the land. A proper study of foreign languages would undoubtedly lead to a quickening of creative activity in the languages of our country. It seems desirable therefore that professors of English and foreign languages in Indian Universities should as far as possible be persons who have a fair knowledge of Indian literature in addition to acquirements in the foreign language and that professors of Indian languages should have proficiency in foreign languages. Consequently the scope for research and a new orientation of studies is as great in the study of languages as in other departments of learning.

The Nayaks of Tanjore

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EDITED WITH INTRODUCTION AND NOTES

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to the Danish proposal made to Malaya (Malliah Chettu) to occupy the port, paying the stipulated rent of 3,000 parados per annum to the Naik of Tanjore. It was also made clear that the Danes might claim the place within three years 'on reimbursing Malaya, all his outlay.' The Hague Transcripts refer to the proposals made to the Dutch and Mallaya Chetty and add that these fell through, owing to the opposition of the Nayak of Tanjore. From William Bayley's account of the voyage in A.D. 1637, it is clear, that the Danes were still in occupation of Tranquebar. However, the sad plight to which the Danes were subjected to, by the absence of regular supplies of ships and money from home, did not seem to have improved the situation and the Danish authorities of Tranquebar were still entertaining the idea of either selling away the settlement or of leasing it out. In the beginning of 1640, the English Council at Surat suggested that Tranquebar should be acquired from the Danes 'if their poverty should induce them to part with it.' Another letter dated January 28, 1644 from Fort St. George refers to the miserable condition of the Danes at Tranquebar. The Dutch were, however, negotiating with the Danes for the purchase of Tranquebar, as they were anxious to prevent it from falling into the hands either of the English or the Portuguese. The Danes also seemed to have promised the Dutch to give them their first offer.²⁹ That Paul Hauseene, the Danish Chief at Tranquebar, had offered to deliver the fort to the Dutch on condition that the latter should pay the debts incurred by the Danes on the Tanjore coast and should restore it to the king of Denmark on demand is contained in a letter dated October 19, 1653. In 1654, a Danish ship containing cargo was captured 'by the Brahmans.' Since nothing more is known of Tranquebar, it is certain that it continued for sometime more under the Danes themselves. In 1669 after a lapse of twenty years a ship is said to have arrived at Tranquebar from Denmark.³⁰

The English after their first attempt to found a settlement at Karikal in A.D. 1624, and which ended in a failure, seem to have given up altogether the idea of making further attempts to establish a factory in the dominions of the Nayak of Tanjore. However, their trade with the Danes at Tranquebar is recorded in their records, where it is mentioned that in 1643, ships loaded with arecanuts and calicoes had arrived from Tranquebar, about the middle of the same year. In that year the English

29 Foster : *The English Factories*, 1651-53 Introduction, p. 28

30 Foster . *The English Factories*, 1668-69 Chokkanatha Nayaka's negotiation with Francois Martin in 1675, offering him both Negapatam and Tranquebar in return for his help in driving away the Dutch and the Danes from the kingdom of Tanjore, shows that Tranquebar was still under the Danes Tijdschrift, p. 11. Cited above.

are said to have sent Mr. Greenhill to Tranquebar with 3,500 rials in money and coral to be invested in commodities. The fact that the English made a further attempt to found a factory at Dēvikōttah (at the mouth of the Coleroon) in 1664 and that they were again refused permission by the Nayak of Tanjore, is mentioned in a Dutch letter.³¹

(c) *The Condition of the Kingdom under him.*

The long reign of Vijayarāghava from A.D. 1633 to A.D. 1673 was full of troubles and costly wars which impoverished the land and denuded it of men and wealth. The Nayaka comparatively speaking, may be said to have had a peaceful reign till A.D. 1642 and for the rest of his period, he had to struggle hard to maintain his position and dominion in tact. He was the last of the Tanjore Nayak line. His epigraphs do not take him beyond A.D. 1656,³² and from the provenance of these it may be said that he succeeded in keeping intact the territories left by his father Raghunātha Nayaka; but in the later years of his reign, his territories suffered a diminution on account of his wars with Madura. In the east, the ports of Negapatam and Tranquebar were held by the Portuguese, the Dutch and the Danes respectively, while on the south-west his epigraphs and the chronicles support his authority over a part of the modern Ramnad District.³³ An inscription coming from Nedungunram³⁴ in the North Arcot District shows that the place had continued to be under the Tanjore Nayaks and also under Vijayarāghava Nayaka in A.D. 1643.

Like his predecessors, Vijayarāghava also had numerous agents, who assisted him in the administration of his kingdom. A record coming from Ōlayāmputtur³⁵ and dated in the cyclic year Sarvadhāri corresponding to A.D. 1648, mentions one of such agents, who was called Vaidyanātha Anṇagal and who is said to have effected a *parivartana* (exchange of property) with the people of that locality. Another agent is mentioned in an inscription coming from Mudigondanallūr.³⁶ Nainiappa Nayanar, the agent referred to, made provisions for the maintenance of daily worship and festivals in the temple of Mudigondanallūr in lieu of the old right of the temple in collecting donation from

31. Foster *The English Factories, 1661-1664*, p. 365

32. 10 of Appendix A of 1921-22

33. There is an inscription of his to be found at Thukkōshtiyur in the modern Sivaganga Zamindari

34. 709 of 1904.

35. 543 of 1918.

36. 166 of 1925.

the villagers for that purpose. A third agent is mentioned at Nedun-gunram, but his name is not known. Vijayarāghava Nayaka was tolerant of all religious faiths, but he specially favoured Vaishnavism by his liberal patronage. His inscriptions as well as the literature of the period show that he was a staunch Vaishnava devotee and this extreme devotion was due to the presence of Kumāra Tatācharya, the great Vaishnava scholar, at Tanjore. Vijayarāghava made him the royal preceptor.³⁷ And speaking of the Nayak's regard and veneration towards his spiritual master, a Jesuit letter dated 1659 says 'that every December the then Nayak (Vijayarāghava) of Tanjore used to cause his *guru* to be carried several times round and round the town in a gorgeous palanquin borne by the ladies of the palace and preceded by another palanquin containing the guru's slippers and used to walk himself in front of the procession swinging a censer and making repeated obeisances to his spiritual master'.³⁸ The *Tanjāvūr Añdhra Rājula Charitamu* says that he used to feed daily about twelve thousand Brahmans and it is said that he himself partook of his food only after seeing that this feeding was actually over. It is also claimed in the chronicles that Vijayarāghava paid daily visits to Srirangam to offer worship to Lord Ranganatha and that, when hostilities between Tanjore and Madura became intense he stopped going to Srirangam but, instead, erected a big tower in his own capital so that by climbing to its top, he could have a view of the towers of Srirangam. He is also said to have made large benefactions to the tutelary God, Rājagōpālaswami at Manṇārgudi. The *Raghunāthābhyaṇam*³⁹ says that he presented the God, Rājagōpāla, with an armour studded with precious stones. He also built the *prākāras* of the same temple and added flower gardens and tanks to it. He founded an agrahara and named it after his father Raghunātha Nayaka. The present Rājagōpālaswami temple at Tanjore was also built by him. Mr. K. Sitaramayya says that even though he was a staunch Vaishnava, yet he was tolerant of other religions and built several maṭtapas to Siva temples in the land.

According to the evidence contained in the *Manṇārudāsavilāsam*⁴⁰ of Rangājamma, Vijayarāghava married Kāntimati, the daughter of one

37. The *Manṇārudāsa Vilāsam* of Rangājamma. The work bears evidence to the close association of the Nayak with his master, Tatācharya.

38. The *Madura Manual*, p. 160

39. *Sources of Vijayanagar History*, p. 255. The same work gives an account of the decorated halls and royal mansions within the palace. p. 265

40. Since the works refer to Vijayarāghava's marriage in Subhakrit, corresponding to A. D. 1662, the work must have been written about that time

Rājachandra, who is said to have given away as dowry, ten lakhs of villages to his daughter. This marriage with Kāntimatī appears to have taken place at the instance of his master Tātācharya. That Vijayarāghava had more than one wife is supported by the evidence of the Jesuit letters and Maṇṇārudās in his *Hēmābja Nayika Swayamvaram* says that he was the son of Vijayarāghava by his another wife called Rājagōpāla Kaṇchika. The Nayaka was also a great patron of learning and man of letters. Numerous poets and poetesses lived and flourished in his court. Among his poets, Kāmarāzu Vēṅkatapati Sōmayāji, the author of *Vijayarāghava Chaṇḍrika*, Kōṇēti Dikshita, the author of *Vijayarāghava Kalyānam*, were the important poets of his court. The *Tanjavūr Aṇḍhra Vāṅmaya Charitam*, which forms the basis for a study of South Indian Telugu Literature, says that Chengalvala Kālakavi, the author of *Rājagōpāla Vilāsam* and Purushōṭtama Dikshita, the author of *Annadāna Nātakam*, were also his poets. Kshētragnā, the great South Indian musician and composer is said to have adorned the court of Vijayarāghava and flourished in that period. Maṇṇārudās himself was an author and he wrote *Vijayarāghavābhyudayam* and *Hēmābja Nāyika Swayamvara Nātakam*. The name of Rangājamma figures prominently among his numerous poetesses.⁴¹ She calls herself a wife of Vijayarāghava and prides herself as being able to compose a hundred verses at a time.⁴² She was the daughter of Pasupulēti Vēṅkatādrī and Mangamāmba and wrote the *Rāmāyana* and the *Bhāgavata saram*. Vijayarāghava, in appreciation of her scholarship and versatile learning, is said to have honoured her by performing a *kanakābhishēkam* (bathing in gold) on her. The reference to a number of Telugu poets in the Tanjore literature of this period, shows clearly that Vijayarāghava patronised them more and more. Sanskrit also received its due share and Vēṅkatamakhi's *Chaturdandīprakāsika* was written during his reign. Vijayarāghava himself was an accomplished poet in Telugu and the *Tanjavūr Aṇḍhra Vāṅmayam* says that he wore an anklet called Sāhitya Rāya on his left leg and had a banner containing the image of Sṛī Sarada as indicative of his patronage of learning. He bore the *burudas* of Sāhitya Bhōja, Sangīta Vēdi and *Lakshavipra annadāta*.⁴³ All his works refer to his interest in theatricals and the palace itself contained a big theatre

41 The *Maṇṇārudāsa Vilāsam* mentions Champakavallī, Kastūri, Sasi-rēka, Mōhanamūrti, Kṛishnāji and others besides Rangājamma.

42 The *Maṇṇārudāsavilāsam*. Satalēkhini and Achyuta Vijayarāghava sārva-bhauma Dharmapatinīyāha Rangājamma.

43 The *Maṇṇārudāsavilāsam*. Published by the Andhra Sahitya Parishad, Coconada.

(*ranga*), where numerous plays were enacted to the satisfaction of the Nayaka. Speaking of his reign, Jayanti Ramayya Pantulu⁴⁴ says that 'the Telugu Prabhandā Literature inaugurated by Allasani Peddanna, reached its glory under the careful nourishment and patronage of Vijayarāghava' And the important contribution made to the southern school of Telugu literature during his reign, was the impetus given to the dramatic form of literature.

The internal evidence shows that his reign was noted for its literary activity and it is well known that he was loved and respected by his subjects for his pious and charitable works. In spite of all these finer shades of his character which represent him as a patron of the fine arts and a lover of music, the foreign evidence contained in the Jesuit letters shows that his later years were full of troubles and wars and also paints a black picture of him, charging him with neglect of duty, want of courage and oppression of his subjects. His lack of leadership and short-sighted policy are all portrayed in them. The frequent departure of a number of his subjects from the realm and their migration to Madura and Mysore are ascribed to his neglect of duty in protecting his subjects from danger and to the oppression to which his people were subjected to by the cruel exactions of the Pradhāni. On account of this, 'the artisans suspended their work; the merchants closed their shops; most of the people left their homes and the kingdom showed the appearance of a desert' From the letter of Andre Freire, it is known that Vijayarāghava soon remedied the sufferings of his people 'by giving him (Pradhāni) up to the people's anger about A D 1666.⁴⁵ Even though his exactions can be justified by his purchasing peace with the Muhammadans at a heavy price, yet his weak character and lack of courage cannot be adequately explained and the extremely religious policy of Vijayarāghava only hastened the downfall of the Tanjore Nayaks.

44 The Southern School of Telugu Literature. *Journal of the Andhra Historical Research Society*, Vol II, Parts 3 and 4.

45 *La Mission III*. pp. 201-2.

CHAPTER IX

CHENGAMALDĀS (A.D. 1674 to 1675)

Soon after the fall of Tanjore and the death of Vijayarāghava and his son Mannārudās in the tragic battle of A.D. 1673, Chokkanatha Nayaka of Madura appointed Alagiri Nayaka his foster-brother, to the governorship of Tanjore. Alagiri assumed charge of Tanjore in A.D. 1673 and soon restored peace and order and reorganised the administration of the kingdom on a strong basis. As viceroy, he had to remit the surplus revenues to the Madura Nayaka, and he seems to have done so only in the first year of his rule. But in the succeeding year his ambition increasing with his power, he neglected to remit this sum in time to the court of Madura and even assumed a tone of equality in his correspondence with Chokkanatha Nayaka¹. The chronicles mention that he took among his officers one Venkanna, a Niyogi Brahman, who had served the late Vijayarāghava Nayaka as his Rāyasam (secretary). And it is said that it was his mischief that was responsible for Alagiri Nayaka's independent and indifferent attitude towards his suzerain. However, Chokkanatha did not think of punishing Alagiri for his impudence, on account of his close relationship and liking for the man and so Alagiri was left alone. In the interval news was received that the old Nayak family was not totally extinct and that a boy of the late Nayak's family, who was saved from the catastrophe that befell Vijayarāghava and his family, was being brought up by a merchant at Negapatam². And Venkanna, who was probably 'discontented with

1. The Jesuit letters do not refer to these incidents but say that Alagiri was ruling over Tanjore under Chokkanatha. Taylor's Mss. and the *Tanjāvūrī Añdhra Rājula Charitamu* speak of his independence. Also see *The Nayaks of Madura*, pp 164-170.

2. The *Tanjāvūrī Añdhra Rājula Charitamu* says that Chengamaladās, at the time of his rescue, was a boy four years old and he is called as the younger son of Vijayarāghava. It adds that he was brought up by a wealthy merchant. *Sources*, p 325. Another chronicle (Taylor's Mss 11, p 200) says that he was a petty merchant and that Chengamaladās was a child aged only two years, at the time of his rescue and that he was the son of Mannārudas (child of Mannārappa). Mr Sathianatha Aiyar says that Chengamaladās must be a son of Mannārudās and not of Vijayarāghava, as the latter is described as an old man aged eighty at the time of his death. *The Nayaks of Madura*, p 167, Note 38. Mr K Sitaramayya, (p 338 to 340) is also of the same opinion. He says that Chengamaladās was a grandson of Vijayarāghava and adds that he must be at

his position and influence in the new regime,' thought of taking advantage of the presence of a member of the old family and also the feud between Alagiri and Chokkanatha, by working out a scheme, in order to restore the old dynasty and to bring about the downfall of Alagiri. Organising the necessary measures to 'facilitate his *coup-d-etat*, he hastened to Negapatam.³

Joining Chengamaladās (also known as Chengamala Nāyaka) Venkanna made his way to the court of Bijapur and sought the sultan's help for re-establishing Chengamaladās on the Tanjore throne.⁴ Venkanna was successful and the Bijapur Sultan, who was led to believe that Chengamaladās was the legitimate heir to the Tanjore throne, sent an army under his general Ekōji, *alias* Vyan-koji, to assist Chengamaladās in his attempt to recover back his crown and patrimony and also to drive away the usurper, Alagiri. Capturing the fort of Arni on his way, Ekōji marched on towards Tanjore.⁵ Alagiri being informed of Ekōji's advance, appealed in vain to Chokkanatha for help; and the latter bearing in mind Alagiri's past conduct refused to send any help. In the meanwhile Ekōji had entered the kingdom of Tanjore and was advancing towards the capital Collec-

least twenty to twenty-five years of age since both Mannārudās and Chengamaladās are mentioned in the *Ushāparinayam*.

3 Taylor's *Ms* says that Venkanna stayed at Negapatam till the boy was ten or twelve years of age, i.e., for about eight years. But the reference to Alagiri's fall in A.D. 1675 in the Jesuit letters disproves the statement of the chronicles. The *Tanjāvūri Añdhra Rājula Charitam* does not speak of his stay at Negapatam. Moreover as Mr. Sathianatha Aiyar says (p. 167) 'Venkanna was too much of a politician not to realise that a moment's delay, would be dangerous to the success of his plans.'

4 Nelson (*The Madura Manual*, p. 194) says that 'Chengamaladās escaped from the palace during the confusion which ensued upon its destruction and fled to the court of Idal Khan (Adil Shah), who received him kindly and promised to assist him.' But he does not mention the source of this information.

5 Andre Freire's letter dated 1676 refers to the expedition led by Ekōji, but it differs from the native chronicles in more than one respect. (*La Mission* III, pp. 247-249). The letter says that Idal Khan, informed of these events sent an army under Ekōji to re-establish the son of the defeated king on the Tanjore throne. According to it, Ekōji fought with the Madura troops sent under Alagiri and defeated them. The *Tanjāvūri Añdhra Rājula Charitam* and the chronicles say that Ekōji arrived at Ayyampēt and fought with the troops of Alagiri. As it is known for certain, that Cokkanatha did not send any help to Alagiri; the statement of the chronicles seem to be more probable. See also *The Nayaks of Madura*, pp. 167-170. Moreover the chronicles refer to the crowning of Chengamaladās and then only speak of Ekōji's usurpation, but do not refer to the circumstances that led to it.

ting all the available forces, Alagiri met Ekōji near Ayyampēt and offered him battle. The defeat of the Tanjore army disheartened him and he is said to have fled to Mysore by way of Ariyalur to save his own life. And Ekōji entered Tanjore soon after and crowned Chengamaladās as the rightful king of Tanjore. The native chronicles speak of the lavish and munificent gifts and presents made to Ekōji by Chengamaladās, and it is said that Chengamaladās was also shown the place where the treasures were buried and that he unearthed a sum amounting to twenty-six lakhs of pagodas. Ekōji was also given the revenues of the districts of Kumbakonam, Mannārkōil (Mannargudi) and Pāpanāsām, to cover the expenses of his expedition. The chronicles again speak of Ekōji's stay at Kumbakonam for some time⁶

Chengamaladās was proclaimed ruler of Tanjore and he began to rule about A.D. 1674. According to the account of the chronicles, he was not allowed to rule peacefully even for a short time as there were internal dissensions among his followers. Chengamaladās acting on the advice given by his foster-mother who had rescued him from the tragedy in 1673 and brought him up faithfully, is said to have appointed the Chetti merchant of Negapatam, who had protected him in his exile, as his Pradhāni and Dalavāy instead of giving it to Venkanna, who was eagerly expecting to be raised to those offices. And the latter dissatisfied with his master's arrangement and 'displeased at the loss of his coveted prize,' approached Ekōji and induced him to take possession of Tanjore for himself.⁷ Emboldened by the co-opera-

6 *The Madura Manual*, p. 197. Mr. Nelson following closely the Jesuit evidence says that Ekōji instead of placing Chengamaladās on the throne, had himself usurped it and became an independent ruler. But all the chronicles are agreed that Ekōji's usurpation happened only some time later and was not immediate. Wilson gives a different account *The Historical Sketch of the Kingdom of Pāndya*, pp. 55-56.

7. Mr. K. Sitaramayya says that Ekōji and Venkanna conspired together against Chengamaladās and adds that the former's stay at Kumbakonam was perhaps due to his ambition to conquer and annex Tanjore. Mr. Sathianatha Aiyar following the chronicles (*The Nayaks of Madura*, p. 170) says that Ekōji though ambitious, at first refused to invade Tanjore as he feared his master, the Sultan of Bijapur but the receipt of the news of the death of the Sultan emboldened him to take action. Mr. Sitaramayya says that the statement in the chronicles that he feared his master is not trustworthy since, there is nothing to support the death of the Sultan of Bijapur in 1675. Adil Shah II died in 1673 and was succeeded by Sikander Shah who ruled from 1673 to 1686. He adds that Ekōji himself must have been sent by Sikandar Shah and Ekōji stayed at Kumbakonam only to give effect to his ambitious policy of conquest. Hence the death of a Sultan and the determination of Ekōji to march against Tanjore have no basis of authenticity and the latter must have acted of his own accord.

tion of Venkanna, Ekōji advanced upon Tanjore; and Chengamaladās informed of the advance of Ekōji, the Maratha general, escaped to Ariyalur.⁸ Tanjore now fell into the hands of Ekōji without any difficulty; Ekōji's occupation of Tanjore marks the beginning of the Maratha rule in the South. He restored peace and order and tried to make amends for the defect in his title by increasing the material welfare of his subjects. Fr. Andre Freire adds (in his letter dated 1676) that 'justice and wisdom of his government begin to heal the wounds of the preceding reign and develop the natural resources of this country'

The Maratha occupation of Tanjore must be deemed to have taken place in the beginning of A.D. 1675 as it is mentioned that Ekōji took Tanjore in the month of Māgha of Saka 1596 corresponding to February-March A.D. 1675⁹ Fr. Andre Freire's letter dated 1676 after men-

8 About this time Rāja Sūrya, the nephew of Tirumalai Sētupati of Ramnad, is said to have supported the cause of Chengamaladās. What became of this coalition is not known. But Rāja Sūrya was imprisoned and put to death subsequently. *The Nayaks of Madura*, p. 184. H. H. Wilson's reference to a Sētupati called Sūrya Dēva, who is said to have taken part in the fight along with Vijayarāghava in 1673 perhaps has reference to this Rāja Sūrya. *The Historical Sketch of the Kingdom of Pandya*, 1838, p. 55.

9 *Inscriptions of the Marathas* by Mr. T. Sambamuithy Rao. Nelson says that Ekōji marched upon Tanjore in the early part of 1675 and established his authority. *The Madura Manual*, pp. 194-5.

Additional Note by the Editor —

"A statement given in the Marathi language by an old servant of the Tanjore palace, sometime before 1787 and of which a translation is printed in Appendix VI of Fullarton's *A View of the English Interests in India* mentions it as the 17th February 1675." The account was given by a writer under the Dabir and Manoji in the time of Pratap Singh and was given in its literal translation from the Marathi. It runs thus — "The Yacojee Rajah was the first man who took possession of the fort and country of Tanjore from a Gentoo (Telugu) king, this event happened on the 7th day of February 1675, dated in Gentoo, Rauchina Nama Sumvacharum, Magah Suddha Septimee. It appears, from the books which are kept in the palace, that there were 3753, which said villages were divided into the five following *subahs* or districts, viz. —

Subah Trivady,
Subah Combeconum,
Subah Mayavaram,

Subah Mannaigoody,
Subah Pattacotah and
Subah Valumputt

The country produced, in the year 1675, under the Yacojee Rajah, paddy cullums—32,050,000 (pp. 317-8 of *A View of the English Interests in India*, by W. Fullarton, London, 1781). Vyankoji Raja went from Tanjore to meet Shivaji in his camp to the north of the Coleroon in 1677 (September)=Shravan, Pūngala, 1599 (Saka) according to the *Jedhe Chronology*, and after mutual greetings and

tioning the occupation of Tanjore by Ekōji, also supports this date. Thus Ekōji, who was sent out to assist Chengamaladās and to re-establish him on the throne, had himself usurped the throne and thereby brought to an inglorious end the Nayak dynasty of Tanjore, the last Nayak himself taking refuge in the west. What became of him is not known; and the traditions, varied as they are, do not admit of any verification. It is claimed by some that Chokkanatha gave Chengamaladās asylum and protected him.¹⁰ Kavitvavēdi says that the descendants of the Tanjore Nayaks continued as jaghirdars under the Madura Nayaks and that a grand-daughter of Chengamaladās was married to Vijayaranga Chokkanatha Nayaka of Madura.¹¹

fraternising for eight days, Vyankoji got suspicious of the intentions of his brother and fled on a catamaran, across the river, without taking leave of his brother. Thereupon Sivaji seized his lands, 'Jagdeogad and the surrounding territory, and the whole province of Chidambar, and Vradhachal,' (See the *Sabhasad* of Krishnaji Anant. (cir. 1694) tr of Mankhar)

A Tamil chronicler, Narayana Kone who wrote a detailed account of the history of the Carnatic with particular reference to the Gingee country and whose account was deemed to be fairly authentic and reliable, thus speaks of Vyankoji's usurpation at Tanjore.—"It is true that Shahji before his death had given to his younger son, Vyankoji (Venkoji), his jaghir of Bangalore. He had confided his son Venkoji to his Brahman minister, Raghunath Narayan Hanumante. For his part the latter considered Venkoji as his own son."

"Fired by ambition, Venkoji unjustly took possession eventually of the kingdom of Tanjore by force of arms. To pacify the country and make the population admit his authority, he had spent all the wealth amassed in the royal treasury (of Tanjore) by the previous king, Vijayaraghava Naicker. Far from succeeding, this subterfuge only seemed to alienate the neighbouring chiefs. He had to fight them incessantly and raise armies; which could not be done without enormous expenditure."

"Then famine having taken its part, it was not possible for him to levy heavier imposts on the inhabitants. Having deliberated he determined to confiscate the wealth of the temples which drew on him the hatred of Hanumante. He therefore took leave of his king under the pretext of making in his old age the pilgrimage to Benares. Really he went to see King Sivaji to inform him of the rapines and pillage (plunderings) of his brother." (Tamil Ms. *Karnataka Rājākkal Savistāra Charitam* (in the Mackenzie collection)—Section VIII—and Guana Diagou's French rendering of the above—"Historie Distallée des Rois du Carnatic" par Narayanam Poulle—1939).

According to this chronicler, Vyankoji should have harried the whole country into poverty within a little over a year since Hanumante had left Tanjore even in the middle of 1676.

10. *The Tanjore Manual*, p 753.

11. *The Añdhra Vāṅmayam*, p 214. Quoted also in Mr Sitaramayya's work.

He further adds that Chengamaladās had a son called Vijayarāghava and a grandson by name, Vijaya Manṇārappa. Still another view is that Chengamaladās went over to Ceylon along with his daughter, who was given in marriage to a Kandyan King.¹² Mr. Nelson gives some information apart from these traditional stories; but they are also not supported by any other plausible evidence. He says that Kīḷavan Sētopati, enlisted the co-operation of Chengamala Nāyakkan of Tanjore, who, it is said, was living then in perfect amity with the usurper Ekōḷi, against Madura.¹³ However, an attempt was made by Kumārayya, the Mysore general, to restore the old line of the Tanjore Nayaks, but it fell through for want of support and co-operation on the part of Chokkanatha of Madura.¹⁴

Chengamaladās was the last known member of the Tanjore Nayak line and with his flight, the rule of the Nayaks came to an end. The Nayaks of Tanjore, who rose to power and prominence under the powerful protection and patronage of the Vijayanagar Empire did not long survive the decline of that Empire. Ever since the accession of Sriranga Raya III in 1642, the fortunes of the Empire as well as that of Tanjore entered on a definite phase of decline; and the subsequent troubles caused by the invasions of Bijapur and Golconda ruined the life of the Tanjore kingdom. Tanjore could not continue for long, single-handed and unaided against these great odds, and so exhausted, she fell. The frequent depredations of the Muhammadan force dried the land of its resources. Besides, the traditional loyalty of Tanjore to the Empire made her an irreconcilable enemy to the neighbouring Madura Nayaks, who were always in a hostile attitude towards her. To these was added the succession of weak and feeble rulers like Vijayarāghava and Chengamaladās. And Vijayarāghava was to a large extent responsible for allowing the kingdom to drift away by his extreme piety, neglect of duty, and want of statesmanship. All these causes acting in unison and favoured by the political circumstances of the times brought about the downfall of the Nayak rule in Tanjore.

12. *The Tanjore Manual*, p. 753. Mr. Sitaramayya thinks that this is probable on the ground that a member of the Kandyan Royal family told him the same story. *The Andhra Nayaka Charitam*.

13. *The Madura Manual*, p. 213. Mr. Sathianatha Aiyar in his work makes no mention of this. Pp. 184-185.

14. *The Nayaks of Madura*, p. 182.

CHAPTER X

GENERAL FEATURES OF THE NAYAK RULE

The Tanjore Nayaks were technically and formally tributary vassals of the Vijayanagara Rayas and their vassalage is proved by their title Nayak which signifies a captain or governor. That Tanjore was a tributary fief of the Empire is testified to, clearly by the Jesuit evidence. The present custom of appointing a governor only for a term of years was not then in general vogue and when once an appointment was made, it was continued without any break or change so long as the appointee remained loyal and faithful to the suzerain power. Thus gradually the system of hereditary succession began to take root even with respect to provincial governorships. Hindu kingship was never elective in practice and the appointment of Śevappa Nayaka as the governor of Tanjore by the Emperor Achyutarāya began practically a hereditary line. The Nayaks thus appointed, carried on the administration of the government as the Raya's deputy. As tributary rulers, they were obliged to pay an annual tribute to their overlords and to maintain an army. Whenever their help was requisitioned by the emperors they had to render necessary assistance and help and play their part as became loyal feudatories. As subordinates, the Nayaks had only limited powers regarding their relations with outside powers and neighbouring rulers. Above all, their subordination meant their comparative security from foreign aggression since the suzerain power looked after their interests and it also meant less expenditure on defence.

Though the Nayak was technically only a vassal, yet in his own jurisdiction he was the supreme and practically the uncontrolled head of the government and he enjoyed almost sovereign powers. The people looked upon him as God's nominee and there was always exhibited an affectionate reverence for his position. His words were final and none dared to find fault with his actions except on rare occasions, as it was believed according to the Hindu conception of state ideals, that the ruler could do no wrong. Even though the Nayak's power was not checked by any council of ministers or popular assembly, yet it could not be deemed to have been an autocracy or an irresponsible power. He had the usual checks and restrictions in the form of *Dharmaśāstras*, conventions and the traditional moral code as enjoined in the Hindu text-books on *Rājanīti* and *Dandanīti*. These were his guides and binding limitations in his work as administrator. Be-

sides, customary law, such as was embodied in the *āchāra* of the *śiṣṭās* (conduct of the good) was much respected in the actual dispensation of justice; though it did not claim the same superiority as Dharma. As these laws were only to ensure a proper and good administration of the government and to put the king in the right path of Rājadharmā, they were generally looked upon as inviolable checks upon the king's arbitrary power. The Nayak ruler, like other Hindu rulers, was a secular ruler as well as the protector of religion. The Nayaks in general, do not seem to have transcended the limits imposed by the traditional moral code and the good and welfare of the people were never sacrificed for any selfish interests or motives. And since the Hindu polity never comprehended a constitutional monarch of the modern type, the welfare of the people depended in practice largely on the individual character of the ruler and hence sometimes good government was followed by grave misrule. In case of tyranny and oppression the subjects had no legal means of getting their grievances redressed and the idea of rising up in open rebellion was never thought of by the people except on very rare occasions of intolerable oppression. Under such circumstances, the people resorted to migrations to places beyond his jurisdiction. According to the Jesuit evidence, such migrations took place in the reign of Vijayarāghava Nayaka on account of his heavy exactions to pay off the Muhammadan enemies. So also, in epochs of benevolent rule there were immigrations from other places into the country.

Practically the ruler's powers were limited by the prevailing moral codes; and the Nayak's rule was a benevolent despotism. Succession to the Nayakship was hereditary and the heir apparent called Yuvarāja, was given proper education and military training and was prepared in the art of government. The *Raghunāthābhyudayam* and the *Sāhitya-ratnākaram* refer to the early education of Raghunātha Nayaka in *Rājanīti* and in the art of handling the various weapons of warfare. Practical administrative training was also given to him by associating him in the working connected with the affairs of the administration. The ruling Nayaks gave abundant opportunity to their heirs, to get themselves fully acquainted with the functions of administration either by installing them on the throne openly or by associating them in rule. Such abdications to give full powers to the heirs and co-regencies, were resorted to when the ruler felt it was impossible for him to carry on the government, either on account of age or because of any crisis.

The Nayak was helped in the discharge of his duties by a number of officials, who formed a small council of advisers. Among them, the minister was the most important person. The office of 'Mantri' or 'Sachiva' was always held by men of great learning, integrity and inde-

pendence. According to the Hindu political idea the good of a state depended largely upon the king and his minister. And a king without a minister was compared to an elephant without its trunk. The Nayaks of Tanjore had a council of ministers and the chief minister was called the *Pradhāni*¹. Under the Nayaks this office was always held by Brahmans. Gōvinda Dīkshita was minister to both Achyutappa Nayaka and his son Raghunātha and the epigraphs tell us that he was the *Pradhāni* as well as the agent (viceregent?) of the Nayaks. The *Sāhityaratnākara* says that when Raghunātha started from his capital on his famous expedition against his enemies, he entrusted Gōvinda Dīkshita with the entire charge of the state. The powers enjoyed by the *Pradhāni* and his influence, were second only to those of the king in importance. In his political status he was more even than the average Diwan and Prime-minister of the Indian States. The Nayak had great confidence in him and his advice was sought on all occasions. The *Pradhāni* was largely responsible for the shaping of the internal as well as the foreign policy of the state. Yagnanārāyaṇa Dīkshita refers to the war council held by Achyutappa Nayaka and to the momentous part played by Gōvinda Dīkshita therein.

Next in importance to the *Pradhāni* was the *Dalavāy* or the commander-in-chief of the forces. He was also called the *Sēnāpati*; and he was responsible for preserving the internal peace and safety of the kingdom and also for defending it against external troubles and aggressions. The *Dalavāy* seems to have combined in him the office of *Pradhāni* and commander also under the Nayaks of Madura. But in Tanjore, the *Dalavāy* was only in charge of the army and its management. He also tended advice to the king on the problem of defence of the land as well as on war. The *Rayasam* or Chief Secretary, corresponding to the *Tirumandira Ōlar* of the Chōlas, was also an important officer under the Nayaks. He seems to have been the chief administrative officer, but did not enjoy the same importance and status as the *Pradhāni* or *Dalavāy*. He was the recorder and the executor of royal orders and was held responsible for the proper working of the civil departments of the state. Next in importance among the hierarchy of officials, was the officer called *Aṭṭavanai* or the chief

1 The *Pradhāni* is sometimes called the minister in charge of revenue (*The Nayaks of Madura*, p. 237). Since the officer called *Attavana* is said to have been also in charge of this department, it is not possible to assign the portfolio of revenue to the *Pradhāni* of these times. See also, *Studies in the Third Dynasty of Vijayanagara*, p. 111.

accountant of the Revenue Department. He was the head of all the revenue officials who were called *Śampratīs* and *Kaṇakkans* (accountants). The *Śampratī* had under his jurisdiction a number of *Kaṇakkans*, the accountants of individual villages. The head of the *bhaṇḍāra* (treasury) was called the *Tōshikāna adhikāri* and he was also an important official connected with the king's council of ministers. The Nayaks did not seem to have paid regular salaries or fixed amounts of remuneration to these officials and their establishments; their services were secured to the state by gifts of land known as *mānya*.

Yagnanārāyaṇa Dikshita also refers to the system of espionage working under a regular department, then prevalent in the court of the Nayaks. The spies had to make secret enquiries into the affairs of the people and study their disposition towards the state and other officials and also to report on the happenings in the neighbouring states. It is said that the news of the death of the emperor Venkatapati Raya I and the outbreak of the war of succession and the consequences thereof, were all quickly communicated to the Nayaka by these royal spies, who were men of great intelligence and skill. The reference in the Portuguese chronicles and in the English Factory Records to the Nayak's warm reception of foreign ambassadors, shows that foreigners were treated with much friendliness and cordiality by the Nayaks. Father Nicholas Pimenta,² a Jesuit observer, tells us how cordially he was received by the Nayak of Tanjore. He says:—'He (the Nayak) entertained us kindly and marvelled much that we chewed not the leaves of betel which were offered to us and dismissed us with gifts of precious clothes wrought with gold desiring a priest of us for his new city which (he) was building'. Captain John Bickley's account of the English voyage made from Bantam to Tanjore also contains references to the royal reception given by the king and his noblemen, to the English envoys at Tanjore.³

In the early part of their rule the Nayaks spent comparatively little on the defence of their kingdoms; but they always maintained an army. In course of time when the country was threatened by foreign invasions they had to devote more attention to defensive measures in order to ensure their own safety by erecting forts at places of strategic importance on the borders of the land. Thus the capital of Tanjore had first of all to be well fortified by the erection of a strong fortress with a deep moat full of water running round it. On the west of the

2 *Punchas His Pilgrims*, Vol. X p. 205.

3 *The English Factories*, Vol. III (1624-29), pp. 13-14.

capital, Vallam was likewise fortified against the possible attacks of Madura rulers, and it was deemed to be a first line of defence for the capital. Under Vijayarāghava these fortifications were further strengthened and new fortresses were built at Paṇḍanallūr in the north-east, Arantāṅgi on the south and at Pattukkōttai and Tiruppattur on the south-west in order to prevent the sudden and unexpected attacks upon Tanjore by the Muhammadans, who had extended their power in the lower Carnatic and the Nayaks of Madura who always threatened the Vallam line of defence. As the safety depended upon the defence of these forts, considerable care and trouble were taken to maintain them in good order. Each fort was placed under the command of a loyal and trusted captain and was equipped with up-to-date weapons of offence and defence. The Jesuit letters speak of the artillery that were installed in these forts. Huge quantities of provisions also were stored up in these forts for the garrisons in case of siege. The Dalavāy was the commander-in-chief and the commanders of these forts were his subordinates.

The Tanjore army was composed of infantry, cavalry and elephantry. Foreign mercenaries were also employed at times of need. The *Sāhityaratnākara* speaks of a camel corps forming a part of the Nayak's forces.⁴ The foot-soldiers carried with them long spears, broad swords, bows and arrows and the reference to *agniyantrās* is evidence to the soldiers using firing guns. The use of muskets and cannon had become general in India in the sixteenth century, and had been familiarised by the Muhammadan powers of the Deccan and the European settlers of the coast. The soldiers wore armours and helmets. The cavalry and the elephantry were all well caparisoned and were manned by trained soldiers. Each elephant was equipped with a howdah of iron-plates on its back. As these two arms formed important elements of the Nayak's forces, much attention was paid for their proper upkeep and maintenance. The Portuguese accounts speak of the heavy prices which the Nayaks paid the Moors for good cavalry mounts. Elephants were mostly bought from the Portuguese who imported them from Ceylon. According to an arrangement made by Antao Vaz Ferreira in 1607, the Portuguese were allowed to sell the elephants captured in the forests of Ceylon, only to the Nayak of Tanjore; and we find it stated 'according to the existing custom, the best purchaser being the Naik of Tanjore' in their records.⁵

4 *Sāhityaratnākara*, Chapter XIII, Sloka 5.

5. *The Portuguese in Ceylon*, Dr. Pieris. Also J. R. A. S., Ceylon Branch, Vol. 21, p. 102.

Nothing more is known of the way in which this huge army was officered or maintained. The king himself sometimes led the army to battle and took the field in person. Yagnanārāyaṇa Dikshita gives details of the materials required for erecting tents and also the other provisions that were carried by the soldiers. Reference has already been made to the soldiers taking with them a medicinal herb which had healing properties. No definite information is available from the sources regarding the navy of the Nayaks; however, the reference to small *dhomes* or junks in the Portuguese chronicles and which were used in the fighting on the Jaffna coast support the view that the Nayaks of Tanjore had small ships equipped with guns and soldiers with the aid of which they seem to have transported their troops to the coast of Ceylon and carried on their oceanic warfare.

Unlike the Madura Nayaks the Nayaks of Tanjore had no *pālāyams** (i.e., feudal estates let out on condition of military tenure and with wide power of administration given to the holders) under them but there were numerous agents of the Nayak, who were in charge of small administrative divisions.⁶ They were the official representatives of the Nayak and the collector of royal dues and taxes. The kingdom was divided into a number of divisions called *nāḍus*; and each *nāḍu* was further divided into several *māhānas* or *sēēmé*. Each *sēēmé* was composed of numerous villages, which were called by several names such as *ūr*, *kudī*, *mangalam*, *grāmam*, *kurichchi* etc. The village was the smallest administrative unit of the state and it was governed by village officials. Each village had a headman, a *kaṇakkan* (accountant) and a *talayāri* or watchman. The local needs of the village were attended to by these officials with the aid of representative householders, who formed a small council akin to our modern Panchayats. As the Nayaks did not seem to have introduced any change with regard to the village administration, it may be held that the old Chola system of rural administration was continued. John Neuhoff says that 'each village has two judges, who are much respected by the inhabitants.'

*Definite conclusions on this point are not possible in the present state of our knowledge. Nayak rule, being feudatory in its origin; naturally tended to promote sub-infeudation of a kind. In the other Nayak states of Madura and Gingee, the grant of fiefs on a quasi-military tenure formed the general rule. The existence of fiefs like Papanad, etc., in Tanjore may point to some degree of prevalence of the same tendency, though it was largely limited by the nature of the village organisation.

6. The epigraphs mention a number of agents. One of such agents at Karaikal is called in the English Records, as the local governor.

The administration of justice was not based upon any elaborate establishment. In the villages, justice was administered by the village officials themselves with the aid of learned men and selected boards of arbitrators. Arbitration, however, was largely in vogue. Even disputes regarding ownership of property, were settled by the arbitrators. Dispute of a general nature involving social and religious rights were heard by the king, who was believed to be the fountain of justice. The Nayak was helped in his capacity as the final appellate authority by the *Pradhāni* and other learned men, who were summoned by the king on those occasions. In the absence of the ruler, the *Pradhāni* took his place and presided over the court generally called *Dharmasāla*. Trials were held in public in the sense that people were allowed to attend and to witness the trial but not to offer their opinions. An inscription from Pattiswaram refers to a settlement made by the *Pradhāni* of a dispute in which the *Pattunūlkārars* (weavers) and the *Chettis* (merchants) were involved. The petition or *Valakkumuraḥ* made to the *Pradhāni* was the result of a dispute regarding the procedure in the receipt of betel leaves and arecanuts during marriages. The exact details of the settlement are not available to us, but the reference to the vow made by both the parties to supply a new cloth worth five panams to the goddess of the local temple in case of transgression of the terms of this settlement, shows that the dispute was settled in a manner that was satisfactory to the contending parties.⁷ Generally, punishments took the form of a fine or penalty but in extra-ordinary cases involving criminal offences, the culprit was put into prison where he was detained. The Jesuit letters refer to the prisoners, who were detained at the Vallam fort.

The coastal region was, at the several ports, in the hands of foreigners like the Portuguese, the Danes and the Dutch. The Nayaks do not seem to have possessed any control either fiscal or judicial over them. The Nayaks cared only for their revenue-returns from their trade operations, the regular payment of which maintained happy relations between them and the rulers of the land. A *cowle* given to the Dutch contains provisions by which Vijayarāghava Nayaka was obliged to hand over back to them such offenders, who might have escaped from their settlements in fear of punishment.

The main source of revenue was the land tax, besides taxes on various articles of merchandise. There were also taxes levied on different professions like the goldsmith's tax and the grazing tax.⁸ According

7. 257 of 1927.

8. 22 of 1897 refers to the remission of taxes on goldsmiths. 460 of 1922 mentions the grazing tax of three panams per annum.

to the Jesuit evidence, the king took half of the produce of land as land tax. Payments were generally made in cash. A letter dated 1682 says that Ekōji was receiving money payments as revenue. Vijayaśāhava's grant of a charter to the Dutch at Negapatam bears evidence to the existence of a mint at Tanjore. The Dutch, who were also permitted to issue coins of their own, were asked to mint coins of the same weight and fineness as was done at the capital. However, sufficient details are wanting to explain in full the working of the revenue system, the nature of the taxes and their incidence. Another source of income was the rent paid by foreigners who had settled on the coast. The epigraphs mention a number of miscellaneous taxes as forming a source of the state revenue; but nothing is known about their character. Some of these taxes were made over to corporations and individuals in recognition of their meritorious services and also to temples and public charities. Lands also were gifted away to temples and charitable institutions free of taxes. The taxes were collected from the people by the village officials and remitted to the royal treasury.⁹ The first item of expenditure was the remittance of the tribute due to the suzerain power. It is not known for certain, how much Tanjore paid as tribute, and Father Vico in his letter dated A.D. 1611 says that Tanjore had to pay an annual tribute of six to ten million francs.¹⁰ The ordinary items of expenditure other than the tribute, included the maintenance of the army, public works and charities of public utility and welfare. As the Nayaks had not many poligars under them, they had to maintain a large army at a considerable cost. Large sums of money were spent towards the maintenance, construction and renovation of temples as the State had to look after the spiritual needs of the people. Much was also spent on public charities such as the maintenance of feeding institutions, also on public works like digging of tanks and canals for purposes of irrigation and also in building flights of steps leading to the bathing ghats at many places, on the banks of the Cauvery. Though the irrigational system of the land was fairly well laid by the Chōlas, yet the Nayaks seem to have added more irrigational facilities to the agriculturists by spending large sums of money on such projects. The epigraphs and the literary evidence refer to the construction of a dam across the Cauvery by Achyutappa Nayaka. Likewise numerous tanks were dug up for storing up water against the possible failure of monsoons.

⁹ 194 of 1922 Refers to the amount payable to the palace by the people (Ūravar) of the Nodiyūr village

¹⁰ *La Mission du Madure*, Vol II, p 124

Commerce was carried on mainly by foreign merchants and the Nayaks did not seem to have generally encouraged trade enterprise on the part of their subjects. The reference in inscriptions to the export and import duties shows that there was foreign trade but it was not conducted by the natives. There was however, a large volume of internal trade carried on by the native merchants. Large quantities of articles were transported from one place to another. Men and pack-animals were employed in the transportation of goods from place to place and the internal means of communication were not at all suitable for the rapid transport of commodities. As the highways were infested with robbers, the merchants generally travelled in groups. The English Factory Records speak of the foreign trade carried on by the Portuguese and the Danes on the Coromandel Coast. Reference is also made to the excellent quality of the Coromandel cloth 'The goods made in the Naick's country far exceeds Pulicat in colours, goodness and cheapness.' Negapatam was the most important trading centre under the Portuguese merchants. Although Caesar Federike speaks of it 'as a country of small trade,' Barbosa gives a good account of the trade carried on there and also its importance. He says that "a large number of ships from Malabar sail hither every year, most of them to take cargoes of rice by which they make great profits, and they bring hither abundance of goods from Cambaya, copper, quicksilver, vermillion, pepper and goods of other kinds. In this province of Charamandel are also found many sorts of spices and drugs which come from the kingdom of Malacca, China and Bengal.' He also refers to the native Hindu merchants called Chettis, (the common caste title of the trading classes) and says that they were very cunning in every kind of traffic in goods. The English Records speak of pepper, calicoes, indigo used in Europe for dying, saltpetre, raw cotton yarn and fine cotton clothes as chief articles of export while the imports were broad clothes and other woollen stuffs chiefly of English manufacture, tin, lead, quicksilver, ivory from Africa, coral from the Mediterranean, gold and silver embroideries, sword blades, knives and glass. The foreign merchants are said to have made large profits.

Agriculture was the most important industry of the land and it flourished under the careful patronage and protection of the state. The state gave encouragement to this industry by providing irrigational facilities. Sugarcane also was grown on a large scale and the cultivation of cane fostered the manufacture of jaggery and sugar. However these industries were run only on a small scale. Fruit growing and gardening were other supplementary occupations of the people; and the Portuguese writers refer to the abundance of fruit that were available in the

land. The most important of the textile industries was the weaving of cotton cloth and the dyeing industry must have been highly developed, since the foreign evidence speaks in glowing terms, about the coloured and the painted cloth of the Coromandel Coast. Another industry that flourished under the Nayaks was the making of salt not only by those who lived near the coast, but also by inland people. The Nayaks fostered these industries as they were a source of revenue to the state. It may be said in passing that most of the articles needed for consumption were locally produced except a few luxuries like silk and glass, which were imported from outside.

The Nayaks continued the traditional Hindu attitude of religious toleration and impartial patronage by extending their patronage to all religious sects. Even though they were the followers of Vaishnavism yet, they supported all the Hindu sects. Śevappa Nayak's grant of lands in favour of a Muhammadan mosque at Tanjore, his permitting the Christians to come and settle in his country, his gifts to Siva temples and his grant of lands to the Madhwa teacher, Vijayindra Tirtha, all these show the general attitude of the Nayaks and his religious catholicity. His successors also were great patrons of all these institutions like him. The reference in the chronicles to the mass feeding of Brahmans done by the Nayaks, again stands testimony to their high regard and respect with which they left undisturbed the traditional classes and castes of society. The Brahmans seem to have enjoyed special privileges and their services were utilised for the good of the administration and for the welfare of the people. The three important religious faiths that received royal patronage were, Saivism, Vaishnavism and the Dwaita cult of Madhwa. The Nayaks were close adherents of their faith and as enjoined in the scriptures, they made pilgrimages to holy places. Both the *Raghunāthābhyudayam* and the *Sāhityaratnākara* speak of the austere lives led by the Nayaks. The social institutions of *Sati* and *pardah* were confined mostly to the royal and noble families. The Nayaks were all polygamists and the prevalence of *Sati* in the ruling family is proved by the foreign evidence of Jesuit letters. Both Rāmabhadra and Yagnanārāyaṇa Dīkshita refer to the presence of courtesans, who formed part of the society.

The Nayaks were great patrons of learning and it is said that about fifty four poets and men of letters lived and flourished during their time.¹¹ In spite of all this, yet it appears that the state did not take an active interest in imparting education to the public. There are no ins-

11 P. P. S. Sastri. Introduction to The Descriptive Catalogue of the Mss. in the Tanjore Serfojī Maharaja's Saraswathi Mahal Library at Tanjore

criptions to show that they founded a public school, but at the same time it cannot be said that they were indifferent to the promotion of learning. Education was largely left to private enterprise but patronage was extended to them by grant of lands and other gifts. The numerous *agrarahas* which they founded were all centres of learning but it was not open to all communities. Besides Sanskrit, Tamil and Telugu were also encouraged by them. They made liberal grants to *mathas* and temples which were also centres of learning. The presence of numerous poetesses shows the high level of culture and learning attained by women. The Nayaks attracted learned men from other parts by holding literary *durbars* frequently. It is said that the Telugu drama known as *Yakshagāna* had its origin during their time. The internal evidence bears ample testimony to the great interest evinced by the rulers in theatrical and other amusements such as the *Bommālāṭṭa* or figurine play¹² The *Yakshagāna* is a dramatic composition 'set to music and sung and acted upon the stage accompanied by instrumental music.' Rāmabhadraṁba also mentions skilled women artists, who were past-masters in the art of dancing. Raghunātha is said to have witnessed such dance recitals and the palace itself contained a stage. There were also women, who could play on the musical instruments such as the *Veena* and the *Mṛdanga* and to the accompaniment of which the palace dancers danced in the presence of the king. Fine arts such as painting, sculpture and music reached a high level of perfection and excellence under them. The *Raghunāthābhyaṇḍaya Nāṭakam* of Vijayarāghava refers to the decoration of the palace walls with portrait paintings depicting historical events and the coronation *durbars*. The Nayaks' patronage of music and their high appreciation of it are all recorded in the chronicles. Raghunātha himself was a great lover of music and he was an accomplished *Veena* player. He wrote the *Sangītasudhānidhi* which was soon followed by the *Chaturdandaprakāśika* of Vēṅkatamakhi. The latter is called the rejuvenator of *Carnatic Music*, while the former enriched the science of music by his original contributions such as the discovery of new *ragas* like *Jayantasēna* and *talas* called *Rāmāṇaṇḍa*.

The Nayaks of Tanjore thus largely contributed to the advance and progress of the material welfare of their subjects and even though they were not able to make any substantial contribution either to the science of politics or administration, yet they occupy an honourable place among great patrons, for their deep love of learning, encouragement and patronage of learned men, music and painting. The most notable contributions of their benevolent rule are still discernible in the field of lite-

12. *Raghunāthābhyaṇḍayam*, Chapter XII, Sloka 10

rature and music. The present magnificent Tanjore Palace Library is said to have been enlarged from the nucleus left by the Nayaks. The important results of their rule were the migration of a large number of Telugu speaking people into the Tamil land and the evolving of a colloquial form of Telugu with a large admixture of Tamil words. Though they were Telugus by birth, they soon endeared themselves to the Tamil people by their benevolence, justice and love. Their rule was equally noted for its moderation as for its equity and though they were foreigners in the Tamil country at the time of their advent, they made Tanjore their home and became quickly an integral element of the country and continued the traditional policy of protection of the subjects and patronage of religion, arts and letters. Thus the Nayak rule in Tanjore forms, from the cultural point of view, a most pleasing epoch in the history of the South Indian people.

The Hormic Theory

(BEING AN EXPOSITION AND A CRITICAL EVALUATION WITH
ORIGINAL SUGGESTIONS FOR THE IMPROVEMENT AND
EXTENSION OF WILLIAM McDOUGALL'S
PSYCHOLOGICAL THEORY).

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An instinct, then, is "an inherited or innate psycho-physical disposition which determines its possessor to perceive, and to pay attention to, objects of a certain class, to experience an emotional excitement of a particular quality upon perceiving such an object, and to act in regard to it in a particular manner, or, at least, to experience an impulse to such action."¹⁴ There are, then, three distinguishable elements in the innate mental structure designated instinctive. There is first, the perceptive aspect, secondly the central or emotional aspect, and thirdly the executive, active or behavioural aspect. If we keep our mind constantly alert and do not succumb to the usual temptations besetting the spatialisation of mental facts, then we can see clearly the significance of these three aspects as represented in the diagram below.

An Instinctual Unit

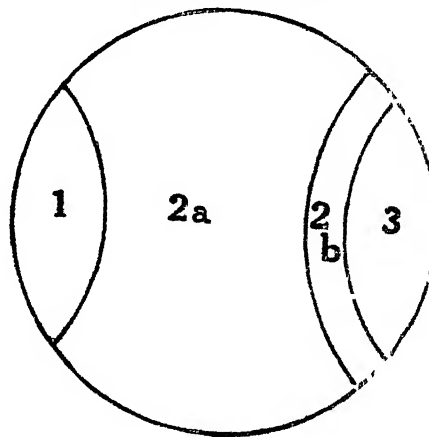


FIG. I

The Tripartite Conception of Instinctual Structure and Function

(1. *The perceptive aspect*, 2a *The emotional aspect*, 2b. *The Expressions of Emotion* and 3 *The behavioural aspect*).

Let us, for the sake of simplicity consider a fundamental instinct, the instinct of flight or escape, with its concomitant emotion of fear. In its most primitive and elementary form, as it operates in the minds of very young children, it is stimulated by sudden loud rasping noise, sudden loss of support or physical pain; these excitants of the instinctive structure of the mind generate the emotion of fear, and the resulting behaviour is the loud cry of the child. In the case of the adult, the "objects" which excite fear may be many and varied, their number and quality being determined by experience. But, running through all of

14. *Social Psychology*, pp. 23-25.

them we may detect one common characteristic, namely, anticipation of pain, physical or mental. Experience teaches the adult to be afraid of many things and persons, and often the springs of fear sink deep down into the unfathomable (or unconscious) strata of the mind. The person who is the "patient" may not know why he is afraid or even of what. Similarly, on the final behavioural side too the adult has learnt to check and control his actions so that he might put on the mark of courage. The natural reaction of the adult to any object exciting fear, is flight to a place of safety, and lying hid in that place. So, the first and third aspects of an instinct are subject to considerable modifications in adult experience, and the only aspect which remains constant is the central affective or emotional aspect. The emotion pertaining to or con-

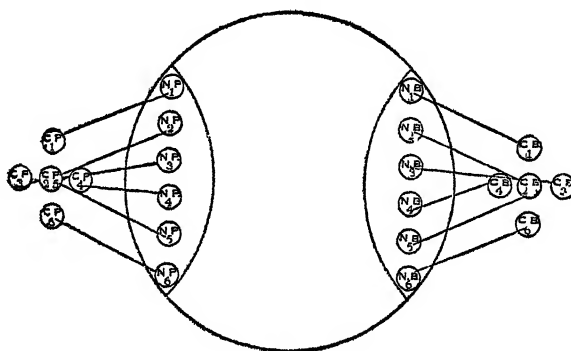


FIG. II.

Conditioning of the perceptual and behavioural aspects of the instinctual structure of mind according to Pavlovian principles

N P 1—6 are the natural stimuli which excite the perceptual aspect of the instinctual structure of the mind C P 1—6 are the artificial or conditioned stimuli which replace N P. 1—6 according to the principles laid down by Pavlov. N.B. 1—6 are the natural acts of behaviour

C.B. 1—6 are the learnt or conditioned acts which replace N B 1—6 respectively.

comitant with the instinctive structure of mind has, therefore, been held by McDougall to be of considerable importance, as it enables us to identify the instinct at work. "...the afferent or receptive part and the efferent or motor part are capable of being greatly modified, independently of one another and of the central part, in the course of the life history of the individual; while *the central part persists throughout life as the essential unchanging nucleus of the disposition*. Hence in man, whose intelligence and adaptability are great, the afferent and efferent parts of each instinctive disposition are liable to many modifications, while *the central part alone remains unmodified*;the emotional excitement,....., is the only part of the total instinctive

process that retains its specific character and remains common to all individuals and all situations in which the instinct is excited....*each kind of emotional excitement is always an indication of, and the most constant feature of, some instinctive process.*"¹⁵ An emotion, then, is the central, invariable, distinctive, characteristic aspect of every instinctive process. *This simple relationship, which is scientifically accurate, between instinct and emotion, was perceived clearly for the first time by McDougall, and its formulation in clear psychological terms is one of the outstanding contributions of our author to psychological theory.* We shall return later to a detailed discussion of this very important topic of the nature of instinct—emotion relationship. At this stage, however, in order to make the hormic picture of the structure of instinct complete in all its details, we must notice the connection between the *expression of emotion*, and the *expression of the instinct* in the form of action or behaviour.

An Instinctual Unit

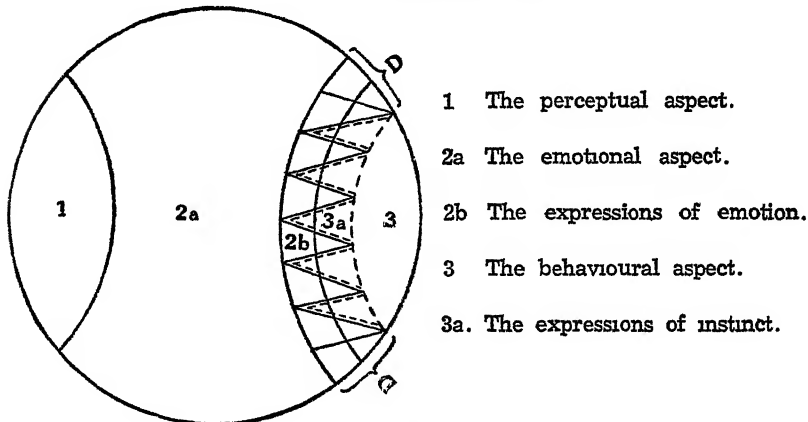


FIG. III

The *expressions* of the emotions and the *expressions* of the Instinct.
(The dovetailing in the region marked DD is to be noticed.)

When an instructual structure of the mind is stimulated by an appropriate excitant, then, there surges up a specific emotion which has its own bodily counterparts. These expressions of the emotion, both internal and external, have been studied carefully and recent developments in endocrinology have served to throw valuable light on the whole problem of the utility of these neuro-muscular and glandular activities. In fear, for example, the occurrence of the heightened activity of the adrenals, and the heart; the cessation of digestive activities; the withdrawal of the blood stream from the face, stomach and inte-

15 *Social Psychology*, p. 29 (*Italics ours*)

stines, and its concentration in the muscles to be exercised in flight; and such other activities have been carefully studied, and it has been shown how these are all directed towards one definite aim, namely, that of helping and accelerating the activity appropriate to the instinct, of which the emotion is the central aspect. Flight, is the natural activity pertaining to the instinct of escape, and all the "expressions of the emotion" of fear are organised to serve the cause of "flight". The expressions of the emotions fit snugly into the activity of the instinct and further that activity. This observation is true *generally* of all instincts, and it is well to remember that sustained and patient experimentation is at the back of this hormic conclusion.

We should remind ourselves that our discussion is confined to the primitive, natural level of mental structure, and that the more sophisticated levels of behaviour will be dealt with later. No purpose will be served by confusing the higher sentimentative level of human behaviour with the primitive instinctual level, and applying the principles properly belonging to the latter for the elucidation of the former.

The picture, then, that we get of the elements of the hormic structure of the mind is that each one of these elements (or instincts) is excited by certain natural stimuli which in the course of experience may be replaced or added to by many others, having sometimes very remote and slender connections with the original excitants (and may be, no connection at all). The process of conditioning which has come to exercise a wide-spread (but not altogether healthy) fascination over the minds of psychologists belongs here. Conditioning is identical with the process of grafting in trees. Without the living stem the graft is worse than useless. The instinctive structure is the living dynamic stem in the grafting process known as conditioning.

The appropriate excitant having been received by the instinct, there surges up the emotion, the constant central aspect, whose expressions flow into the last or behavioural aspect and help to sustain or accelerate it. But, as in the case of the first aspect, the last also is subject to very considerable modifications through experience. It is supposed to be the high water mark of the so-called civilised behaviour of the modern age to inhibit completely the natural activity appropriate to the basic instincts of human nature. Such inhibition carries with it the inhibition of some of the more marked outward expressions of the emotion of that instinct.

Section X. The Hormic list of Instincts.

The significant question now arises, "How many of these basic elements (called instincts), which hormic psychology has isolated and

*A Comparative Statement of Fundamental (mental) Structures as
developed in McDougall's three great works*¹⁶

<i>Social Psychology</i> 1	<i>An Outline</i> 2	<i>Energies</i> 3
1. Flight (Fear)	(f) Escape (Fear)	(d) Fear
2. Repulsion (Disgust)	(e) Repulsion (Disgust)	(b) Disgust
3. Curiosity (Wonder)	(c) Curiosity (Curiosity)	(e) Curiosity
4. Pugnacity (Anger)	(b) Combat (Anger)	(j) Anger
5. Self-abasement (Subjection)	(h) Self-submission (Subjection)	(i) Submission
6. Self-assertion (Elation)	(i) Self-assertion (Elation)	(h) Self-assertion
7. Parental Instinct (Tender Emotion) Some other instincts of less well-defined emotional tendency	(a) Parental or Protective instinct (Tender Emotion)	(f) Protective or Parental instinct
8. Reproduction	(i) Mating (Lust)	(c) Sex
9. Gregariousness	(j) Gregariousness	(g) Gregariousness
10. Acquisition	(k) Acquisitiveness (Ownership)	(m) Acquisition
11. Construction	(l) Constructiveness (Creativity)	(l) Construction
12.	(d) Food-seeking (Gusto)	(a) Food-seeking
13.	(m) Appeal (Distress) Some Minor Instincts	(k) Appeal
14.	(n) Laughter (Amusement)	(n) Laughter
15.		(o) Comfort
16.		(p) Rest or sleep
17.		(q) Migration
18.		(r) Simple bodily needs.

16. The letters within brackets in columns 2 and 3 indicate the order in which the elements of mental structure are discussed in *An Outline* and *Energies* respectively.

analysed with such clarity, are there in the human mind?" McDougall has given different answers in his different epoch marking books, and this fact has been used as one of the arguments against the validity of the hormic theory. We are familiar with the phenomenon of the steady increase in the number of chemical elements. From a little over seventy, the number has come up to a little less than hundred. Yet, no one has felt the need for attacking the foundations of chemistry, because it has been adding to the list of its elements. If through addition to knowledge it is found that there is need to add to the basic elements of the constitution of human nature, one need not take any objection to the expansion of the list of instincts. If we keep this important consideration in mind we shall not easily be tempted to do injustice to the contributions of hormic psychology in this field.

The table (*vide* page 331) sets forth clearly the development of McDougall's conception of the number and nature of the fundamental elements of human mental structure. In the earliest work, "*An Introduction to Social Psychology*" (1908), the list is short, containing only seven major instincts and four minor ones, the line of distinction being decided by the fact that the former have well-defined emotions, while the latter lack such clear identifying central affective tendencies. Distinctness of emotion is here made the test for the recognition of an independent instinct. In "*An Outline of Psychology*" (1923) the name instinct is still retained, though there are included in the list, which is nearly twice as long as the original list in the *Social Psychology*, many instincts which do not have any clearly distinguishable emotions. McDougall chooses to name the affective aspects of these, after the instincts themselves with the prefix "feeling of." It will also be noticed that there are not many changes in the names of the instincts. But, when we come to the *Energies of Men* (1932) we meet many fundamental changes. The term "instinct" is abandoned, and replaced by "propensity". A new conception, that of "ability," is introduced. The names have been altered. In many instances the propensities are given the names of the emotions. The "Emotion" test is abandoned, and the list is nearly trebled. Along-side these changes, a fundamental change in McDougall's view of instinct has occurred. A criticism of this change will constitute the main theme of one of the later parts of this monograph. At present, it is sufficient to note that there is an evolution in the hormic conception of the instinctual structure of the mind.

Section XI The Hindu and Hormic lists of Instincts

We may, in passing, make a remark of great interest, and of some importance to our general theme. Ancient Hindu Psychology, working

in the field of aesthetics, put forward a list of elements of human mental structure similar to McDougall's first list. In the Rasa (or aesthetic), scheme of the ancient literary critics eight Sthāyī Bhāvas (or fundamental propensities) were recognised. These were anger, fear, disgust, wonder, assertion, mirth, love and sympathy. The first eight elements mentioned in the first column of the comparative table seem to have been admitted by Hindu Psychology, except submission, which was evidently identified with fear. Sympathy is not considered to be a separate instinct by McDougall, but only a peculiar characteristic of all instincts. What was said in another context may be repeated here with profit. "The ssthāyī bhāvas are the propensities of western psychology, and of these Krodha, bhaya, jugupsa, and vismaya may be accepted as being really elemental. Hāsyā should be interpreted as laughter, and rati as simple sex passion (or lust). Śoka is not elemental, and so it should be replaced by tender emotion which is the most fundamental component of the complex texture of śoka. Utsāha should be replaced by self-assertion. With these modifications we may accept the foundation of the Rasa theory....There is remarkable resemblance between the two lists—the Hindu and the McDougallian...."¹⁷

Section XII. Hormic Orientation to Psychological Studies.

We have not yet reached the point where the unique features of hormic psychology could be set forth and evaluated; but even at this early stage it is well to notice a most valuable contribution made by hormic psychology. McDougall's psychological theory has given a definite orientation to psychological studies. It has made it possible for the psychologist to organise the topics of his study round a central dynamic point. One of the major requirements of a well-developed science is that its parts (that is, the component topics of study which constitute the whole) should be thoroughly organised. A science which lacks internal organisation in its limbs is in a sorry plight indeed. And psychology was in this unenviable position for a long time. Through overemphasis on the cognitive aspects, the affective and conative parts were hard to fit into a purely intellectualistic psychology. Even the great work of James suffers from this defect. The two volumes of his work, "*The Principles of Psychology*", are in conflict with each other, because two conflicting principles govern the outlook in these tomes. The elementary text books, dealing with the so called faculties, lack internal cohesion. A well known and popular text-book like Angell's *Psychology* suffers from this defect. Starting with a consideration of

17. Naidu, P S., "The Rasa Doctrine and the Concept of Suggestion in Hindu Aesthetics." *Journal of the Annamalai University*, Vol. X, 1940.

the general nature and aim of psychology, the author enters into a description of the nervous system, and then he places before us Chapters on Attention, Sensation, Perception, Memory, Imagination, Reasoning, Feeling, Emotion etc. Each chapter might very well constitute a monograph. If we look at a recent book such as Professor Woodworth's Psychology, the situation is not any different. The order of chapters is changed, but the same incoherence persists. There is no binding principle or thread running through all the chapters, uniting them and conferring point and purpose on them. In other words, psychology as expounded by these authors lacks a great orienting principle. And McDougall's hormic theory, for the first time in the history of psychology, has endowed the whole science with an orienting concept, the concept being the hormic theory itself. *Purpose* is the orienting concept for which psychology has been waiting all these years. Its entry into our science has immediately given the proper direction to all the topics usually discussed, and has generated a vital and dynamic inter-relation between them. The following diagram indicates at a glance the result of hormic orientation to psychological studies.

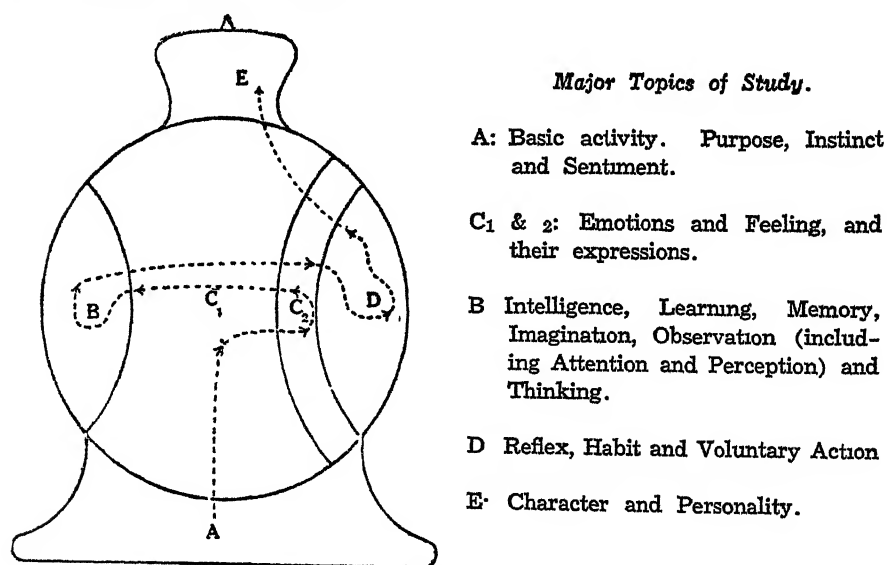


FIG. IV

Reorganisation, according to Hormic Principles, of the ordinary topics of study in an introductory course in Psychology.

(The dotted lines and arrows indicate the sequence of Topics.)

The central theme of the whole psychological study of men and animals is purposive behaviour. Hence the opening chapters of a properly written book on psychology will deal with behaviour, and with

the innate mental structure whose function is behaviour, that is, the instincts (or the basic elements of structure) and their emotions will be the main theme of the introductory chapters, and lest the confusion which persists should last longer, it will be shown how these basic elements are organised into sentiments, and how these sentiments are the immediate activating causes of behaviour. The detailed analysis of the structure of the basic innate elements of mental constitution will be made, and the relationship between the cognitive, affective and conative aspects will be clearly displayed. In the next section the general nature of emotion and feeling, and the affective tone of the working of instinctual structures—namely, pleasure and unpleasure—will be discussed. In the third section the various topics of traditional cognitive import will be dealt with, but at every stage, and even at the risk of causing inconvenience by monotonous repetition, it will be pointed out that sensation, perception, attention, learning, observation, memory etc., have no meaning and no function to fulfil apart from conation. All these processes will be displayed as merely the results of the flowering out of the first aspect of the instinctual structure of the mind. They are merely so many ways in which the first or perceptive aspect of the basic structure works. It is conation that confers meaning, continuity and value on these processes. As Alexander rightly pointed out “there is no element of cognition in the mental process itself” The discussion of the ubiquitous “conditioned Reflex” will belong here, and it will be shown how this type of reflex can flourish only on a conative basis. The last section will deal with the active side of mental structure. Will, choice, habit, decision etc., will be covered by this section. And finally the crowning problem of personality will be taken up and all the threads will be gathered up in the hormic discussion of character. Thus, nothing that was discussed by the older types of inchoate psychology will be lost sight of. All the topics will be preserved; they will be made living and dynamic members of a purposefully organised system of study controlled and animated by a single aim—the establishment of the hormic theory. Such a well oriented science of psychology has been made possible by the genius of McDougall and Freud.

CHAPTER II

INSTINCT, BEHAVIOUR AND SENTIMENT

Section I. The Hormic Theory again.

Even at the risk of causing some inconvenience to the reader by repetition, it becomes necessary to state the hormic theory again, because it has been misunderstood, sometimes wilfully, but often through ignorance. The theory has been stated in a most admirable manner by McDougall himself in "An Outline of Psychology." "The view that all animal and human behaviour is purposive in however vague and lowly a degree, and that purposive action is fundamentally different from mechanical processes, may be conveniently called the *hormic theory*. The word "hormic" is from the Greek "horme" which means a vital impulse or urge to action. Professor T. P. Nunn expounds the theory clearly in his book "Education, Its Data and First Principles" and McDougall in quoting from this work says, "starting from the position that there is more than physics and chemistry even in the humblest animal, it (the hormic theory) comes to view the history of life as a striving toward the individuality which is expressed most clearly and richly in man's conscious nature, and finds, therefore, in that goal toward which the whole creation moves the true interpretation of its earlier efforts."

"We need a name for the fundamental property expressed in the incessant adjustments and adventures that makes up the tissue of life. We are directly aware of that property in our conscious activities as an element of "drive", "urge" or felt tendency toward an end. Psychologists call it *conation*, and give the name *conative* process to any train of conscious activity which is dominated by such a drive. To this element of drive or urge, whether it occurs in the conscious life of men and the higher animals or in the unconscious activities of their bodies and the (presumably) unconscious behaviour of the lower animals, we propose to give a single name *horme*. In accordance with this proposal all the purposive processes of the organism are hormic processes, conative process being the sub-class whose members have the special mark of being conscious. . . the hormic processes undergo a "development in which they become organised into ever wider and more complex hormic systems. Beginning as a cell in his mother's body, a very part of her flesh, he (each man) becomes a "parasite" nourished by her blood and feeding on her food, yet already a being with a life and destiny of his own. The hormic processes, both conservative and creative, in which

that life consists, are still mainly unconscious though, as his nervous system determines and his sense organs form, his "Will to Live" may be enriched by some vague conational, that is, conscious elements, while he still lies in his mother's womb. As soon as he has left her body and has entered on the long task of picking his way through the labyrinth of the outer world, the conational elements acquire a new significance, and their development becomes the centre of the Speculator's interest. Conation rises from the level of blind, or purblind, impulse to that of clear-eyed desire and eventually from the level of desire seeking an immediate good to that of will fixed upon a distinct and perhaps ideal goal. Meanwhile, subserving this advance in the character of the norm, there is a parallel development in its organisation—showing itself first in the emergence of his physiological organs and in the correlation of their functions, then after birth, in the co-ordination of the powers of sense and movement in systems of ever-increasing complexity and effectiveness, and lastly in the gradual building up of great conative hierarchies, which determine the form of the man's individuality and are the measure of his life's achievement."

The general foundation for the hormic theory as sketched by Professor Nunn has been adopted by McDougall, and the structure built upon it by scientific methods has been discussed by us. Two points in the discussion have to be singled out for special mention and emphasis because the wide-spread misunderstanding of the hormic theory arises out of them. In the first place it should be remembered that McDougall uses the term *instinct* in a highly specialised and technical sense. Its connotation is as rigorously and clearly defined as that of *force* in physics or of *species* in biology. It is no excuse for muddled thinking to say that instinct is used very loosely in popular speech, and so McDougall should have avoided the term in his system. *Force* and *species* too are used vaguely and loosely in popular speech. Yet no scientist is worried by this double usage. Why should a concession conceded to the physical and biological sciences be denied to psychology? In a way McDougall did give in to his critics by removing instinct from his psychology and using *propensity* in its stead. But he need not have yielded even an inch of his hard won ground. It is this apparent climb down that is responsible for a great deal of confusion in the subsequent development of his system.

Section II. *Instinct and its Motor mechanisms.*

Instinct, as a fact of mental structure, embraces three aspects, the cognitive, the emotional and the behavioural, and no one of these taken by itself may be called "instinct." Popular misconceptions arise

out of a tendency to get pre-occupied with the last aspect alone. We can, however, understand this fallacy and sympathise with the deficient mentality behind it, for the popular mind is not gifted with powers of analysis, nor does it know how to argue from observed facts to causes which control the facts. But when scientists commit the same fallacy we are puzzled and often discouraged.¹ Long lists of instinctive activities are given by the behaviourists and others who place undue emphasis on the working of the neuro-muscular mechanism of instincts. Hunting has been very widely described as an instinct; eating is another instinct; and so are swallowing and digesting. Commenting on this tendency to multiply the number of innate capacities McDougall writes, "they postulated strange instincts of all kinds as lightly and easily as a conjurer produces eggs from a hat or a phrenologist discovers bumps on a head."² "Lightly to postulate an indefinite number of variety of human instincts in a cheap and easy way to solve psychological problems, and is an error hardly less serious and less common than the opposite error of ignoring all the instincts."³ It will be seen at once that hunting, eating, swallowing and digesting are merely so many stages in the last aspect of the food-seeking instinct. In the same way many reflexes and acquired motor skills are used in the service of the innate instinctive structure of the mind, just as a well organised rail-route may be used in the service of commerce, travel, business, pleasure and military transport. The muscular activities mentioned above are not instincts, but only parts of instinctive organisations which are mental in essence. If it be remembered that an instinct, as the term is used in hormic psychology, is a fact of mental organisation, this blunder of identifying motor activity with instinct can be easily avoided. An instinct does, of course, involve, instinctive activity, but it embraces much else besides. It includes an emotion and a cognitive disposition. To neglect these two factors and to call the activity alone instinctive is inexcusable in hormic physiology. McDougall is very clear on this point. "I see no reason" he says, "why these complex coordinated movements should be regarded as the expressions of so many distinct instincts. In my view they are essentially the expressions of motor mechanisms..... *We have to regard such motor mechanisms not as instincts, but merely as the instruments of instincts*"⁴

1 L. L. Bernard in his book on "Instinct" discusses the outrageous use which the term has been put to.

2. Social psychology, p 7.

3. *Ibid.*, p 75

4. An Outline of Psychology, pp. 116-117.

The relation between instinct and behaviour is of the utmost importance in hormic psychology. In the early days of his academic career McDougall looked upon psychology as the positive science of the conduct of living organisms. Even the extreme behaviourist can and nothing in this denunciation that will not gladden his heart. The charge that the leader of the hormic school shifted attention from facts of human behaviour to preoccupation with abstractly over-simplified elements and relations is without any foundation. In fact McDougall attaches such great importance to social behaviour that he lays it down almost as a dictum that no psychology can lay claim to recognition as a science unless it is in a position to explain the behaviour of man in the group. Behaviour, therefore, is of the utmost importance to the hormic psychologist. It is, however, not the behaviour of a machine or an automaton, but that of a living organism. This organism has a mind, and it is in this mind, its structure and dynamic working that the final explanation for behaviour should be found. When McDougall found that his emphasis on behaviour was likely to create the impression that he was a *behaviourist*, he made haste to clarify his position by demonstrating that behaviour as studied by the proper type of psychology points unmistakably to the existence of a behaving mind. Of the purposive nature of behaviour, and of the hormic nature of the energy activating the behaving mind we have said enough. We have now to study how the dynamic structure of mind, as sketched in the theory of instincts evolves, with the growth of experience, giving rise to highly complicated units which serve as the immediate stimuli to activity.

The topic is of such great importance to the contemporary psychologist that it will bear elaboration a little further. Instinct is not to be identified with the motor mechanism of instinct. The point that we are urging here is that psychologists are still committing today the old fallacy of identifying the motor mechanism with the innate mental structure which activates the mechanism. They refuse, (one is tempted to say wilfully), to read aright the findings of McDougall. They persist, despite McDougall's warning, in confounding structure with function, and in mistaking the part for the whole. Warren's *Dictionary of Psychology* makes the following observation in connection with the definition of *Instinct*:

'Contemporary uses of the term vary in all degrees between the extreme mechanistic meaning of a *response pattern*, and the extreme purposivistic meaning of an *inner spring* leading to accomplishment of a certain biological end.' The antithesis between *response* and *inner spring* is meant to be extreme and exclusive. The two are poles apart. That the latter may be viewed as including the former is a possibility which

is ruled out by the definition. So great is the hold which this mechanistic view has obtained over the minds of psychologists that McDougall was forced to state his position in emphatic terms. "*An instinct... is something very different*" says our author, "from the instinct of the mechanistic behaviourist...; for them (the mechanists) an instinct is merely an "action-pattern", a system of reflex arcs in the nervous system which, on being appropriately stimulated, leads to nervous excitation through a fixed system of channels to a certain group of muscles and glands. *In contrast to this, the instinctive disposition of the human psychology generates an impulse towards a goal of a certain type*; and this impulse may express itself in strivings that may take a multitude of forms and bring into play a variety of muscular and other executive processes according to the circumstances; this variety being greater, the greater creature's power of intelligent appreciation of the circumstances and of intelligent adaptation of its actions to those circumstances".⁵

In driving the point home that "instinct" is not to be misunderstood as the action-pattern, McDougall points out that many different patterns may be used in the service of the same instinct, and the same pattern in the service of different instincts. Moreover, on the cognitive side too, we find the same principle in operation. So all behaviouristic conceptions, as well as those which are allied to them, break down completely. Instinct embraces the motor mechanism and much else besides. Its main spring is in the mind, not in the nervous system.

5. An Outline of Abnormal Psychology, p. 19.

**Studies in Sanskrit Texts on Temple Architecture
with Special Reference to the Tantrasamuccaya**

By

N. V. MALLAYYA

STANZA 55.

Reference to Talas on the Basis of Dimensions

In this stanza, the author prescribes the dimensions which characterise *Ekatalaprāsāda*, *Dvitalaprāsāda* and *Tritalaprāsāda*. *Ekatalaprāsāda* will have a measure (breadth) beginning with three cubits and ending with ten cubits, *Dvitalaprāsāda* will have a measure beginning with five cubits and ending with twelve cubits and *Tritalaprāsāda* will have a measure beginning with seven cubits and ending with sixteen cubits. These measures may be tabulated as follows:—

1	<i>Ekatala</i>	.	3, 4, 5, 6, 7, 8, 9, 10
2	<i>Dvitala</i>	..	5, 6, 7, 8, 9, 10, 11, 12.
3.	<i>Tritala</i>	..	7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

From the above table it is clear that certain measures are exclusively characteristic in nature. For instance, the measures of 3, and 4 cubits characterize only *Ekatala*, whereas the other measures given to it are also allotted to *Dvitala* and *Tritala*. According to the author's prescription, *Prāsādas* which have the particular measures of three and four cubits will have only one *talas*, those that have five and six cubits of measure will have one or two *talas*; those that have the measures of seven, eight, nine or ten cubits will have one or two, or three *talas*, those having the measures of eleven and twelve cubits will possess two or three *talas*, and those which have the particular measures of thirteen, fourteen, fifteen or sixteen cubits will have not less than three *talas*. Concerning the height, it will be recalled here that it is as has been directed in stanza 7. There different possible variations in height have been stated. The latter part of the stanza states that these *Prāsādas* having the various *talas* and measures must have height best suited to its measure. In addition to the varied proportions prescribed in stanza 7, the author here states a few more alternatives. The height prescribed may thus be increased or decreased, whenever desired, by one cubit or three-fourths of a cubit, or half a cubit or quarter of a cubit. These numerous alternatives afforded are calculated to make selection of proportions easy and consistent with the proper orientation of the structure. The laying down of the additional alternatives corresponds to the treatment of *Prāsādas* having increasing number of *talas*, not so far dealt with.

In this verse are thus found prescribed measures relating to *Prāsādas* which have one to three *talas*. Other measures which refer to *Prāsādas* that have *talas* ranging from three to twelve are referred to

in connection with the treatment of the four classes of structures—*Jāti*, *Chandas*, *Vikalpa* and *Ābhāsa*⁵³⁶. The details connected with the construction of these four classes are not stated and the treatment on the whole appears casual. In stanzas 56 to 61 are contained directions for the raising of talas up to three, but not more. If we compare our text with other texts on this subject, it will be found that the *Mayamata* gives details for the construction of four talas, the *Kāśyapaśilpa* for sixteen and the *Mānasāra* for twelve. Each of these authors devotes a single chapter to the subject of each 'Tala' and gives a great amount of details pertaining to the construction of each tala, one above the other. Our author's detailed treatment of the subject, which is confined to the two talas, is probably commensurate with the demand of Kerala, where structures are rarely to be met with which fall under the Mahāprāsāda class

The following authority quoted by Śaṅkara⁵³⁷ supports the measures laid down in the text:—

“ भूमिलम्बमिति प्रोक्तं त्रिचतुर्हस्तमानतः ।
 द्विद्विहस्तविवृद्धैकभूमेर्मानं चतुष्टयम् ॥
 पञ्चषड्दहस्तमारभ्य द्विद्विहस्तविवर्धनात् ।
 द्वितले तु चतुर्मानं रुद्रभानुकरान्तकम् ॥
 सप्ताष्टहस्तमारभ्य द्विद्विहस्तविवर्धनात् ।
 पञ्चदशविकारान्तं त्रितले पञ्चमानकम् ॥”

Here four odd measures of 3, 5, 7 and 9 and four even measures of 4, 6, 8 and 10 cubits are suggested and the total alternatives thus secured come to eight. In the second case, the four odd measures indicated are 5, 7, 9 and 11 cubits and the four even measures are 6, 8, 10 and 12 cubits. In the third case of Tritalas, five odd measures of seven, nine, eleven, thirteen, and fifteen and five even measures of eight, ten, twelve, fourteen and sixteen cubits are suggested.

Also compare the following extracts from the *Mayamata*:—

“ एकभौमं चतुर्मानं वक्ष्ये संक्षिप्य शास्त्रतः ।
 त्रिचतुर्हस्तमारभ्य नवपङ्क्त्यन्तविस्तृतम् ॥”⁵³⁸

536. Vide stanzas 62, 63, and 64.

537. *Tantrasamuccaya* with *Vimarśinī* (T S S Edn.), Part I, pp. 83-84

538. *Mayamata*, Ch XIX, st 1 (T S. S. Edn.).

“ द्वितलं पञ्चधामानं वक्ष्ये संक्षेपतः क्रमात् ।
 पञ्चषट्सप्तमारभ्य द्विद्विहस्तविवर्धनात् ॥
 सैकार्कमनुहस्तान्तमुत्सेधं पूर्ववद् भवेत् ॥”⁵³⁹
 “ त्रितलं पञ्चधामानं संक्षेपाद् वक्ष्यतेऽधुना ।
 सप्ताष्टहस्तमारभ्य द्विद्विहस्तविवर्धनात् ॥
 पञ्चदशविकारान्तं व्यासतुङ्गं तु पूर्ववत् ॥”⁵⁴⁰

Also compare the *Kāśyapaśilpa*:—

“ त्रिचतुर्हस्तमारभ्य द्विद्विहस्तविवर्धनात् ॥
 नवपङ्क्तिकरान्तं तु हस्तेनार्ककरं भवेत् ।
 एवमष्टविधं मानं युग्मायुग्मं चतुश्चतुः ॥
 पञ्चषड्दहस्तमारभ्य द्विद्विहस्तविवर्धनात् ।
 तिथिद्विरष्टकारान्तमाभासं त्रितलस्य तु ॥”⁵⁴¹

The following extract, which confirms the varied heights prescribed in the latter part of the stanza, is also given by Śaṅkara :—

“ प्रत्युन्नतायतकरेषु च हस्तमाना-
 द्वीनि त्रिपादकरमर्धमथापि पादम् ।
 तत्रैव वास्तुनि यथोचितमाचरेद्वै
 हा[ही]नं च वर्धनमनिन्द्यमनेकशास्त्रे ॥”⁵⁴²

This extract appears to have been taken from the *Mayamata* from a comparison of the same with what is stated below :—

“ तत्पुन्नतायतकरेषु च हस्तमाना-
 द्वीनि त्रिपादकरमर्धमथापि पादम् ।
 तत्रैव वास्तुनि यथोचितमाचरेद् वै
 हानिं च वृद्धिकमनिन्द्यमनेकशास्त्रैः ॥”⁵⁴³

539 *Ibid*, XX, 1, 2(1).

540. *Ibid*. XXI, 1, 2

541 *Kāśyapaśilpa*, XXIV, 1-3 (Ānandāśrama ed.).

542. *Tantrasamuccaya* with *Vimarśinī* (T S S Ed.), Part I, p. 84.

543 *Mayamata* (T. S. S. Ed.), Ch. XIX, st 9.

STANZA 56.

Second Tala.

In this stanza, the author describes the method to be followed in the construction of the second tala. When a second tala is to be built the interior wall must first be raised in height. It will be remembered in this connection, that a sanctum generally is said⁵⁴⁴ to possess two Bhittis (walls), Āntara and Bāhya (internal and external), provided the structure is not very small. The direction that the height of the internal wall should be increased implies that the sanctum which is to possess more than one tala must be of a considerably large size and must have the capacity for the disposition of the two walls, internal and external. On the inner wall thus increased in height must be situated a suitable plank which is capable of holding the extremity of the rafters. Where there are two and more roofs, such a plank serves to secure the upper extremity of the rafters of the lower roofs, for in the lower roofs there will be no Kūṭa which is calculated to secure the upper end of rafters.⁵⁴⁵ The reference to this plank *Lupāgradhānī* in the course of the description of Dvitala implies the existence of two rafters, lower and upper in Dvitala structures. The Lupās which are fixed into the Bāhyot-tara and which hence start from it must be placed and secured into the *Lupāgradhānī*. That is to say, the top of the rafters of the lower roofs must be fixed into the plank *Lupāgradhānī*. In the above of these rafters should be placed Paṭṭikās, and these having been fixed on to the rafters, the rafters, now joined to the Paṭṭikās, should be covered with such materials as bricks and the like. This is the way of making the lower roof, and after finishing the lower roofing, the area should be levelled up with beams and planks. After levelling well the floor, construct the *Gala*. The '*Gala*' here referred to and directed to be constructed, in other words, appears to be the storey. The description given in the succeeding three stanzas indicates that what is termed '*Gala*' here refers to the *floor* that is built above. In a note under stanza 57, a Kerala commentator remarks that the height of the pillar of the storey may be called '*Gala*'.⁵⁴⁶ In fact, the storeys built above, through the increase in height of the internal wall, present an appearance which gives an impression of *Gala* or neck. These seeming and so-called '*Galas*,' which are in fact the storeys of the structure, should be distinguished from the structural *Gala* which forms one of the six main divisions of a tem-

544 Vide the *Tantrasamuccaya*, Patala II, sts. 19, 20

545. For the function of Kūṭa *vide* Stanza 48.

546 Ms R. No 4,128, Madras Govt. Orient. Mss. Library, Madras.

ple. The regular and structural Gala comes above Prastara and below Śikhara and its disposition is defined in stanza 52 already described. Its close association with Śikhara must never be forgotten. The Śikhara rises from above the Gala. Hence the structural Gala must be recognised from its disposition which is immediately beneath that of Śikhara. The so-called 'Gala' which is a 'Tala' above the ground-floor will be recognised by the presence of a Prastara or ceiling above it. The structural Gala will have no Prastara or ceiling above it; on the other hand, it will have Śikhara rising from it.

STANZA 57.

The Dimension of Grīvā.

In this stanza, the author gives the characteristics of the Grīvā referred to in the previous stanza, Grīvā which is to be understood in the sense of the storey above. Nine alternative heights are prescribed for this Grīvā, relative to the height of the pillar of the ground-floor. The nine proportions are: $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{4}{5}$, $\frac{5}{6}$, $\frac{6}{7}$, $\frac{7}{8}$, $\frac{8}{9}$, $\frac{9}{10}$ of the height of the first pillar, i.e., the ground pillar. In other words, the height of the upper floor, which is the height of the pillar of that floor, is $\frac{1}{2}$ etc., of the height of the pillar of the ground floor. With regard to the height of the storeys going up in order (such as the second, the third, the fourth etc.) this rule of proportion must be extended. The height of the third storey will be $\frac{1}{2}$ etc. of the height of the pillar of the second storey; the height of the fourth storey will be $\frac{1}{2}$ etc. of the height of the pillar of the third storey and so on, the height of the storey above being determined with reference to the height of the pillar of the storey immediately below it. Whatever the number might be, the storeys that mount up must keep the nine alternative proportions laid down with a view to determining the height of the storeys. In the last quarter of the stanza, the author tells us that there should be constructed a 'Prastara' or ceiling in each Tala. The Vivaranakāra remarks in this connection:⁵⁴⁷ "प्रस्तरप्रक्रियेति प्राशुक्तास्मिन्नेयते", meaning thereby that the previous description of Prastara furnished in stanza 53 should be recalled and read here while constructing the Prastara of each Tala. A quota-

547. *Tantrasamuccaya Vivarana* (Ms R No 1994, Govt. Orient. Mss. Library, Madras).

tion from Murāri is cited by Śaṅkara in support of the proportion laid down by our author. It is as given below⁵⁴⁸ :—

“ त्रिकायेकादशान्तांशा दारुस्तम्भे द्रयादिभिः ।
कल्पयेन्नवधा ग्रीवा विमानानां विधानतः ॥”

The authors of the *Mañjarī* and *Nibandhana* also give nine alternative proportions, four out of which agree with the proportions given by our author. The nine proportions stated in the *Mañjarī* and *Nibandhana* are $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{3}{5}$, $\frac{4}{5}$, $\frac{5}{7}$, $\frac{7}{8}$, $\frac{5}{9}$ and $\frac{7}{11}$. The four proportions $\frac{2}{3}$, $\frac{3}{4}$, $\frac{4}{5}$ and $\frac{7}{8}$ are the same as described by Nārāyana and Murāri.

The *Mañjarī* states ⁵⁴⁹ :—

“ रुद्रांशैस्सुषिरं दशांशवसवो वेदत्रिसतेन्द्रियं
दिक्सप्तत्रितयद्वयं हुतवहाः पञ्चांशतो निर्मिताः ।
पञ्चांशं सुषिरैस्समुज्ज्वलतरा पादार्धमेवं क्रमात्
दारुस्तम्भविभागतोऽथ नवधा ग्रीवा विमानाश्रिता ॥”

The *Nibandhana* observes⁵⁵⁰ :—

“ त्रिचतुष्पञ्चषट्सप्तभागेऽष्टांशे नवांशके ।
दशैकादशभागे च दारुस्तम्भे यथाक्रमम् ॥
द्वाभ्यां त्रिभिस्त्रिभिर्भागैस्त्रिभिर्वै पञ्चसप्तभिः ।
पञ्चाष्टनवमिश्चैव नवग्रीवा विमानगा ॥”

The term ‘Dārustambha’ which is employed in all these extracts implies that when the height of the pillar is to be employed as a standard of measure, it is the height of the wooden pillar that is to be counted, for the height of the pilaster is less than that of the wooden pillar. The complete height which technically characterises the wooden pillar should be adopted as the standard with reference to which relative proportions are to be determined. When there is no wooden pillar, a slight conversion of the height of the pilaster to that of the regular and technical pillar would serve the purpose.

548. *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.), Part I, p. 85.

549. *Prayogamañjarī*, Pat VI (Ms. Adyar Mss. Library).

550. *Śarvāgama Nibandhana* (Ms. Tripunitura), Patala XIII; for quotation vide *Vimarśinī* (T. S. S. Ed.), p. 85.

STANZAS 58 AND 59.

Ornamentations of the Grīvā

The ornamentation of the Grīvā (that is to say the storey) forms the subject-matter of the verses 58 and 59. The Vivaranakāra makes the following introductory remarks:⁵⁵¹

“ श्रीदोन्मन्त्रात्रुक्तम् : तत्रापि विभक्तमाह—श्रीवायामुपरीति ”.

For the purpose of furnishing room for the varied types of ornamentation, the height of the wall of the storey is required to be resolved into certain number of divisions and sub-divisions. The direction given is as follows. Leaving a height of 3 Dandas at the upper portion of the wall of the Grīvā (storey), the remaining lower portion must be divided into four main divisions. The first third and fourth divisions thereof should each be divided in turn into 10 sub-divisions. In the first main division at the bottom, which is composed of 10 parts, there will be composed an *Āṅgapottulā* with 3 parts, hereof *Anurā* with 2 parts and a *Piṭṭa* accompanied by *Vāṇas* with 5 parts. The *Āṅgapottulā* is so called because of the characteristic feature of its decorative motif which as the name *Āṅga* indicates, bears the form of a *liṅga*. Having described the mouldings of the first division, the author in the succeeding verse (No. 59) mentions those ornaments which constitute the other divisions. The second main division, which is not sub-divided will be given for the construction of a wall characterised by the wall ornamentations such as the ‘*Śālās*’, ‘*Kūṭas*’, ‘*Gavākṣas*’ and the like. ‘*Śālās*’ and ‘*Kūṭas*’ are in the form of miniature structures, and these are wrought on the wall with a view to adorning the same. ‘*Kūṭas*’ and ‘*Śālās*’ are differentiated from each other from the point of view of their form and disposition. *Kūṭa* has the regular shape of the structure. It will be square if the shape of the structure is square, and circular if the structure is circular. In its making all the parts will be repeated except the *Adhishthāna*. ‘*Kūṭas*’ are situated at the four corners of the wall. ‘*Śālās*’ is an elongated miniature structure, and as such possesses three *Śūpikās*. Its form is reminiscent of the old Āryan sacrificial hall. ‘*Śālās*’ are to be located at the main sides of the wall.⁵⁵² The term ‘*Gavākṣa*’ refers to a particular kind of window which is perforated with designs in the shape of bul’s eyes. It is also called ‘*Jālaka*.’ The *Sama-*

551 *Tantrasamuccaya Vāraṇa* (Ms. R. No. 1994, G. O. M. L. Madras)

552 For description of *Kūṭa* etc. vide stanza 40

rāṅgaṇasūtradhāra describes it as a perforated screen in the verse following⁵⁵³:—

“ छिद्रैर्गवाक्षप्रतिमैश्छिद्रितं सर्वतस्तु यत् ।
फलकं तद् गवाक्षः स्याज्जालमित्यपि कथ्यते ॥”

It is a perforated window and is often employed as an ornamental motif to decorate the wall surface. It is thus perforated window-motif that is referred to in the stanza.

It will be noted here, that the rows of mouldings which are worked under the second division where the ‘*Śālās*’ and ‘*Kūtas*’ and ‘*Gavāksas*’ and the like are said to be wrought, will seem to present to the ‘*Kūtas*’ and ‘*Śālās*’ something of the appearance of a continuous base composed of different mouldings, especially in view of the fact that the ‘*Kūtas*’ and ‘*Śālās*’ are described without any reference to the element of base.

Now, coming to the third and the fourth divisions, in the *vibhāga* which is subdivided into 10 parts, construct an *Uttara* with five parts, and with the other five parts make a *Valabhī* adorned with such figures as the *Bhūtamālās* and the *Gajamālā* (figures of *Bhūtas* or spirits, *gajas* or elephants, and the like arranged in a beautiful row) In the fourth division, which is also further divided into 10 parts, construct a *Kapota* with the 10 parts. The *Kapota* here described will be one that is associated with *Mukhapattikā* composed of 2 parts out of the 10 parts (*Kapota* is the cornice used as an ornamental moulding; *Mukhapatti* is the moulding in the form of a central band or belt running round and in front of whatever is associated with it; here it forms the belt or band of *Kapota*).

There remains now, above the four divisions of the lower portion, the upper portion, consisting of a height of 3 *Dandas*. In these three *Dandas* thus left at the top must be constructed a ‘*Grhapīṇḍī*’ with its own ‘*Pādas*.’ ‘*Grhapīṇḍī*’ accompanied by *Pādas* or Pillar ornamentations constitutes the final and finishing moulding adorning the summit of the wall.⁵⁵⁴

553 *Samarāṅgaṇasūtradhāra*, Vol. I, Ch XVIII, stanza 34. (Gaekwad’s Oriental Series, No XXV)

554 Most of the wall ornamentations that are here referred to such as *Grhapīṇḍī* with *Pādas*, *Kapota*, *Valabhī*, *Valabhyuttara*, as well as the *Śālās* and *Kūtas* are the same as are found described in connection with the treatment of the wall decorations of *Ekatala* in the ‘*Alpaprāsādaprakaraṇa*’ The same ornamenta-

A reference to the *Nibandhāna* and *Mañjarī* yields some additional information concerning the names of some of the divisions we have observed above. The second main division is termed 'Bhūmī' the third, 'Prastara'. In this 'Prastara', five parts constitute the 'Uttara', where three are secured inside and are called by the name 'Ghana'. The following statements from the *Nibandhāna* and *Mañjarī* confirm and amplify the subject dealt with in the text of stanzas 53 and 59.

Thus the *Nibandhāna* observes⁵⁵⁵:—

“ ग्रीवोच्चं त्रिशधा भङ्त्वा पञ्चभिः प्रस्तरोत्तरम् ।
 त्रिभागं घनमुद्दिष्टं तस्य द्वाभ्यां च वाजनम् ।
 वलभिः पञ्चभिर्भूयः कपोते दशविस्तृतः ।
 तत्रास्यपट्टिका द्वाभ्यां त्रिमिरालिङ्गपट्टिकाम् ।
 द्वाभ्यामथान्तरिः पञ्चजागैश्च त्रिघनाः प्रति ।
 नन्द्यावर्तभिमुलिककुञ्जराक्षगवाक्षकम् ॥
 कारयेदुज्ज्वलं सम्यवेदिकोपरि जालकम् ।
 द्वाभ्यां त्रिभिश्चतुर्भिर्वा कुड्यस्तम्भे तु पञ्जरः ॥
 गर्भाधिं द्व्यंशपादौ स्यान्निर्यहस्य च विस्तरा ।
 तावती च महानासिसिंहश्रोत्राभिनासिका ॥
 दण्डमाना द्विदण्डा वा कूटोऽष्टांशेन सन्नतः ।
 गृहपिण्डलिमिर्दण्डैरुज्ज्वलां विहिता पुनः ।
 वलभिर्द्वित्रिभूताढ्या तथा सिंहेभक्तिनरैः ॥”

The *Pratyāgamamāñjarī* states as follows⁵⁵⁶ —

“ त्रिशङ्कागविभक्तमत्र विधिवत् कृत्वोच्छ्रयं प्रस्तरे
 कृत्वा चोत्तरमत्र पञ्चविहितं तेषां त्रिभागं घनम् ।
 द्वाभ्यां वाजनमत्र पञ्च वलभिः भूयःकपोतं दश
 द्वाभ्यामास्यपट्टिकां च विधिवत् तेषां कपोते ततः ॥

tions in the case of the second Tala are described with some modifications and additions consistent with the proportionate nature and size of the wall surface of the second Tala.

555 *Śaṅgamaṅibandhāna*, Patala XIII, (Ms from Tripunittura)

556 *Mañjarī*, Patala VI, (Ms Adyar Mss Library)

आलिङ्गपट्टिकां भागैस्त्रिभिः द्वाभ्यामथान्तरीम् ।
 पञ्चभागैः प्रति कुर्यात् तेषां द्वाभ्यां च बाजनम् ॥
 नन्दावर्तकगुलिककुञ्जराक्षगवाक्षकान् ।
 कुर्यादित्युज्ज्वलान् सम्यग् वेदिकोपरि जालकान् ॥
 भित्तिस्तम्भद्विभागैः त्रिभिश्च विहितः पञ्जरो वा चतुर्भिः
 निर्व्यूहं गर्भधाम्नो दलमितमथवा पादमानं विदध्यात् ।
 विस्तारात्तेन तुल्या नयनमुखमहानासिरत्युज्ज्वला स्यात्
 सिंहश्रोत्राभनासी पुनरपि विहिता दण्डमाना द्विदण्डा ॥
 प्रासादस्य तथाष्टदिक्षु विहितः कूटश्च शाला तथा
 शाला स्याद् द्विगुणायता शुभकरा विस्तारतस्त्वान्मिका ?
 उत्सेधात् गृहपिण्डिषु विहितो दण्डत्रिकः प्रोज्ज्वलो
 भूतेभद्विजभूषितश्च बलभिः सिंहैस्तथा किन्नरैः ॥”

STANZA 60.

Special Ornamentations of the Second Tala.

In this stanza, the author lays down the rule pertaining to the disposition of ‘Kūṭas’, ‘Śālās’ and ‘Nāsikās’ as well as the location of Mūrtis or images which are placed as ornamental figures on the sides of the wall of the second tala. Since the disposition of the ‘Kūṭas’ and ‘Śālās’ and ‘Nāsikās’ has already been described in connection with the treatment of the wall-decorations of the first tala,⁵⁵⁷ the present treatment of the subject in a similar context would seem unnecessary. Concerning the propriety of the treatment the two commentators are at variance in their explanation. Śaṅkara⁵⁵⁸ offers the remarks that what is laid down in this stanza is the special kind of ornamentation of the Dvitala, and this statement seems to us to have been occasioned by an additional reference made in the stanza about the location of deities on the main sides of tala.

557 Vide stanza 39

558. *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.), Part I, p. 86.

The Vivaraṇakāra on the other hand remarks⁵⁵⁹:—

“शालाकूटगवाक्षकादिरुचिरां वेदि द्वितीय इति यत् सामान्येनोक्तं तद्विवृणोति तले द्वितीय इति ॥”

He thus would have us believe that the present stanza is given with a view to explaining in elaborate terms what has generally been referred to in the previous stanza about the ‘Kūṭas’ etc. According to this stanza, the ‘Kūṭas’ are to be constructed at the corners, and ‘Śālās’ on the main sides; and between the ‘Kūṭas’ and ‘Śālās’ should be made the ‘Nāsikās’, each in pairs. The ornamentation ‘Nāsikā’ is so called because it resembles in its design the nose. There will be in all in the second tala four ‘Kūṭas’, four ‘Śālās’, and eight pairs or sixteen ‘Nāsikās.’ The last quarter of the stanza directs the making of four images of Brahmā, etc., on the four main sides of the tala. The deities are thus allotted the quarters in the *Nibandhana* Brahmā or Śiva in the East, Ācakṣāna (i.e. Dakṣināmūrti) in the South, Neraṣimha in the West and Kṛṣṇa or Skanda in the North. In addition to the Nāsikās that have been mentioned before, another ‘Nāsikā’ is prescribed to be constructed on the ‘Śikhara’. This latter ‘Nāsikā’ is termed ‘Mahānāsikā’ by Śaṅkara, and a reference in the *Mañjarī* reveals that there are to be constructed on the ‘Śikhara’ four such ‘Nāsikās’ on the four sides.

States the *Mañjarī* in a place⁵⁶⁰:—

“स्थाप्या दिक्ष्वथ मूर्तयोऽत्र शिखरे नासीश्चतस्रोऽप्येत् ।”

With regard to the number of ‘Kūṭas’, ‘Śālās’ and ‘Nāsikās’, the *Mañjarī* states:—

“कुर्यात् कूटचतुष्कमूर्ध्वनिलये शालाश्चतस्रोऽप्येत् ।
नास्यः षोडश ॥”

The author of the *Nibandhana* gives the same direction concerning the location and number of ‘Śālās’, ‘Kūṭas’ and ‘Nāsikās’,

For says he⁵⁶¹:—

“ऊर्ध्वं कूटचतुष्कं च दिक्षु शालाचतुष्टयम् ।
नास्यः षोडश कर्तव्याः ॥”

559. *Tantrasamuccaya Vivaraṇa* (Ms. R No 1994, G O.M.L., Madras).

560. *Mañjarī*, Patala VI (Ms Adyar Mss Library)

561. *Nibandhana* Patala XIII (Ms Tripunittura), vide *Vimarśinī*, p 86

It will be noted in this connection that the main sides are allotted to 'Śālās' and 'Mūrtis'. If both 'Śālās' and 'Mūrtis' are to be located in the same quarters, the question arises: how are they to be disposed? In such a case where both are desired to be wrought, probably 'Śālās' will have to be wrought first and then the images placed in the 'Śālās'. In his work on *Dravidian Architecture*⁵⁶² Dubreuil gives a figure of the upper part of a modern temple of Tiru-pāppuliyūr, where is clearly exhibited the disposition of 'Kūṭas' and 'Śālās.' Dubreuil also refers to the employment of niches on walls which are intended to contain images of divinities sculptured in high relief, though often they are found to remain empty.⁵⁶³ The presence of deities on the wall sides, it follows from this observation, is an *optional addition* in the scheme of the sculptural and decorative motifs wrought on walls. The commentator Śaṅkara retains in tact the two textual expressions वारचयेत्न and further remarks⁵⁶⁴:—

“ पुनर्दिशास्वजाद्या ब्रह्मोद्या मूर्तीश्च (रचयेत्) ।”

He construes व | with |सी: and adds

“पुनर्दिशास्वजाद्या ब्रह्माद्या मूर्तीश्च, तदूर्ध्वगतशिखरे महानासीश्च रचयेत् ॥”

From the tenor of this interpretation it appears that the view of Śaṅkara is in favour of constructing 'Śālās' as a necessary ornament and introducing Mūrtis as an optional addition. He reads the option with reference to the images to be placed, and retains the construction of 'Śālās' as a necessary wall ornament, to which sculptured figures of deities may be added, if desired.

Śaṅkara thus understands that the representation of deities is not an alternative, but an additional case, as the term 'पुनः' indicates

The statement of the *Nibandhana*⁵⁶⁵ may be noticed in this connection:—

“ द्वितीयमूमौ संस्थाप्य दिक्षु दिङ्मूर्तयोऽथवा (ऽत्रवा) ।

ब्रह्मा वोमापतिः प्राच्योमाचक्षाणस्तु दक्षिणे ॥

प्रतीच्यां नरसिहस्तु कृष्णः स्कन्दोऽथवोत्तरे ।”

562. *Dravidian Architecture*, Fig 5 opposite to page 14.

563. *Ibid.*, page 14

564. *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.), Part I, p. 86.

565. *Nibandhana*, Pat. XIII (Ms. Tripunittura).

The *Mayamata*⁵⁶⁶ observes as follows :—

“ तले तले विमानानां दिक्षु देवान् न्यसेत् क्रमात् ।
 पूर्वायां द्वारपालौ तु नन्दिकालौ च विन्यसेत् ॥ ३९ ॥
 दक्षिणे दक्षिणामूर्तिं पश्चिमेऽच्युतमेव हि ।
 अथवा लिङ्गसम्भूतमुत्तरे तु पितामहम् ॥ ४० ॥

 एवं मूलतले प्रोक्तमुपर्युपरि वक्ष्यते ॥ ४३ ॥
 पुरन्दरं न्यसेत् पूर्वे सुब्रह्मण्यमथापि वा ।
 दक्षिणे वीरभद्रः स्यान्नारसिंहश्च पश्चिमे ॥
 उत्तरे तु विधाता स्याद् धनदो वा विधीयते ।
 एवं द्वितलविन्यासं त्रितले तु मरुद्गणान् ॥

Gurudeva likewise says⁵⁶⁷ :—

“ तले तले विमानानां दिक्षु बेराणि विन्यसेत् ।
 नन्दीश्वरमहाकालौ पूर्वद्वाराधिपौ न्यसेत् ॥
 दक्षिणे दक्षिणामूर्तिं पश्चिमे लिङ्गसम्भवम् ।
 विष्णुं वाप्यथ कौबेरे दुर्गां ब्रह्माणमेव वा ॥
 रुद्रावतारक्रीडादिकथारूपाणि चैव हि ।
 मूलभित्तौ च परितो विन्यसेदुक्तलक्षणम् ॥
 अथोपरितलात् प्राच्यामिन्द्रं षण्मुखमेव वा ।
 दक्षिणे दक्षिणामूर्तिं वीरभद्रमथापि वा ॥
 पश्चिमे नारसिंहं चाप्युत्तरे चार्धदं विधिम् ।
 द्वितीये तु तले चैवं तृतीये तु मरुद्गणान् ॥
 तले तलेऽमरान् सिद्धान् यक्षविद्याधरानपि ।
 गन्धर्वानप्यप्सरसः सिद्धान् नागांस्तथा मुनीन् ॥

566 *Mayamata* (T. S. S. Ed.), XIX, 39, 40, 43, 44, 45.

567. *Gurudevapaddhati* (T. S. S. Ed.), Uttarārdha, Patala XXXII, stanzas 21, 22, 24, 25, 26, 27, 28, 29, 30.

प्रथमांश्चैव दैत्यादीन् षोडशप्रतिमास्तथा ।
 कण्ठादधः प्रनेरुर्ध्वं कोणे कोणे वृषान् न्यसेत् ॥
 सर्वेषामपि देवानां कोणे कोणे स्ववाहनम् ।
 कण्ठादधश्चान्यतले प्राकारादौ च विन्यसेत् ॥
 इत्येवमादिभिर्युक्तं विमानं सम्पदां पदम् ॥”

Kāśyapa⁵⁶⁸ also refers to figures of deities to be sculptured on the various talas in their different quarters :—

“ तलं प्रतिविमानादि उन्नतं त्वथ वक्ष्यते ।
 स्कन्दं वै पूर्वदिग्भागे दक्षिणामूर्तिदक्षिणे ॥
 पश्चिमे विष्णुमूर्तिं वा लिङ्गोद्भवमथापि वा ।
 धातारमुत्तरे विप्र भारस्थाने तु वर्जयेत् ॥
 एवं धरातलोर्ध्वे ।
 स्कन्दं वै पूर्वदिग्भागे शक्रं वा सितरोहितम् ॥
 हस्तिविंशीनञ्जकासीन एक एव समन्वितम् ।
 दक्षिणे दक्षिणामूर्तिं वीरभद्रमथापि वा ॥
 पश्चिमे नारसिंहं तु सौम्यमूर्तिमथापि वा ।
 उत्तरे तु विधातारमञ्जं वा द्विजसत्तम ॥
 प्रस्तरोपरि कर्तव्यमेकद्वित्रितले तथा ।
 चतुर्भूम्यादिभूमासु महेशस्तु यथेष्टगः ॥
 उमास्कन्दादिसहितो महेशः परिकीर्तितः ।
 अन्यदेवाश्च गन्धर्वाः सिद्धा दैत्या मरुद्गणाः ॥”

The above quotations from allied works furnish detailed information in respect of the employment of the various deities and their vehicles for the purpose of the adornment of the wall-surface in the different talas.

568. *Kāśyapaśilpa* (Ānandāśrama Series), Paṭala XXVII, 56, 57, 60, 61, 62, 63, 64.

BHĀVANĀVIVEKA

BY

MAṆḌANAMIŚRA

WITH

VIṢAMAGRANTHIBHEDIKĀ

BY

NĀRĀYAṆA

Edited with Introduction

BY

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नन्वेवं भावनाया अपि साध्यरूपायाः १प्रतीतिर्भावनान्तरा-
पातः, तदपि २तथैवेत्यनवस्था । ३यदपि मतं ४व्यापारो हि ५सा,
रूपमेव तस्याः ६तादृशमपराधीनोपजननम्, ७अतो रूपात्तथात्व-

सिध्यतु, परवस्वर(स्तात्त्व)र्थभेदोऽपि साधयिष्यते । तस्मान्न कचिद्भावाभावे करोतेः प्रयोग
इति न तस्य धात्वर्थसामान्याभिधायित्वम्, अपि तु भावनाभिधायित्वमेवेति द्वितीयश्लोको-
क्तमपि दूषणं परिहृतम् ॥

इदानीं 'सर्वत्र यदि धात्वर्थे भाव्यस्यै(व्यं सै)वास्तु भावना' इति पूर्वोक्तं दूषण-
मुत्थापयन् पूर्वपक्षवादी चोदयति—नन्वेवं भावनाया अपि साध्यरूपायाः प्रतीतेः भावना-
न्तरापातस्तदपि तथैवेत्यनवस्थेति ॥ अयमभिप्रायः—यथा तिङन्तेषु धात्वर्थस्य साध्यता-
प्रत्ययः प्रत्ययाभिधेयभावनासंस्पर्शकृतो न स्वाभाविकः सम्भवतीति प्रत्ययाभिधेया भावना
अभ्युपगता, तथा भावनाया अपि साध्यरूपताप्रतीतिर्भावनान्तरसंस्पर्शकृतेति भावनान्तर-
कल्पनाप्रसङ्गः, तस्या अपि साध्यताप्रतीतिर्भावनान्तरसंस्पर्शकृतेति अनवस्था स्यादिति ।
अनवस्थादोषपरिहारं शङ्कते—यदपि मतं व्यापारो हि सा, रूपमेव ९तस्याः तादृशमपराधी-
नोपजननम् । अतो रूपात्तथात्वसिद्धिर्नान्यसंस्पर्शव्यपेक्षितेति ॥ अयमभिप्रायः—स्वयमेव
व्यापाररूपो(पा) भावना, साध्यस्वभावत्वात् । तथाहि—१०रूपमेव हि तस्यास्तादृशम-
पराधीनोपजननम्—११अपराधीनमस्या उपजननम् । नह्यस्या भावनान्तराधीनं जन्म घटा-
दीनामिव । यथा संवेद्यानां विषयाणां ज्ञानात्संवेदनमन्यज्जायते^{१२} न तथा संवेदनस्यान्य-

- | | |
|---|---------------------------|
| १. 'प्रतीतेः' नास्ति—ग, घ, ङ. | ७. अतः स्वरूपात्—ग, घ. |
| २. तथैवेत्यनवस्था—क, ख, ग, घ, ङ. | ८. तथा तिङन्तेषु—छ. |
| ३. यदि मतं—क, ख, ग, घ, ङ. | ९. तस्यां—छ. |
| ४. व्यापारोऽपि सद्रूपमेव—क, ख. | १०. 'रूपमेव हि' नास्ति—च. |
| ५. सा स्वरूपमेव—ग, घ; सारूप्यमेव—ङ. | ११. न च पराधीनं—छ. |
| ६. तादृशं पराधीनोप—ग, ङ; तादृशमप-
राधीनोप—घ. | १२. -मन्यज्जायते—च. |

सिद्धिः^१ नान्यसंस्पर्शव्यपेक्षितेति^२, धात्वर्थोऽपि तर्हि तथा अस्तु । तथा हि—^३सोऽपि वस्तुतस्तथाभवन् न वा आपादित-
तथाभावः स्वशब्दैः व्यापारात्मोपादीयते ; ^४घञादिष्वपि कारक-
सम्बन्धोपपत्तेः, अन्यथा अव्यापारे कारकसम्बन्धायोगात्, अव्या-
पार^५सम्बन्धिनः कारकत्वानुपपत्तेः, क्रियासम्बन्धप्रभावितत्वा-

तोऽन्यसंवेदनम्, स्वभावत एव तथात्वात् । एवं स्वभावत एव भावनायास्साध्यताप्रतीतेः
भावनान्तरसंस्पर्शनपेक्षत्वान्नान्यथाप्रसङ्ग इति । एतन्निराकरोति—धात्वर्थोऽपि तर्हि तथा
अस्त्विति ॥ एतदेव प्रपञ्चयति—तथा हि—सोऽपि वस्तुतस्तथाभवन् न वा आपादित-
तथाभावः स्वशब्दैः व्यापारात्मोपादीयते इति ॥ अयमर्थः—यथा भावना (स्व)रूपादेव
साध्या न भावनान्तरमपेक्षते, धात्वर्थोऽपि तर्हि तथा अस्तु । तथा हि—सोऽपि वस्तुतस्तथा
भवन्—साध्यस्वभावो भवन्, न वा—अतथाभवन्, स्वशब्दैरेवापादिततथाभावः आपा-
दितसाध्यभावः व्यापारात्मोपादीयते—यथा ध्वनिश्चैत्यादयः स्निग्ध(सिद्ध)स्वभावा अपि
शब्दैरेवापादितसाध्यभावा व्यापारात्मतयोपादीयन्ते ‘ ध्वनति घण्टा ’, ‘ श्वेतते प्रासादः ’
इति । एवञ्च सति घञादिष्वपि कारकसम्बन्धोपपत्तिरित्याह—घञादिष्वपि कारकसम्ब-
न्धोपपत्तेरिति ॥ अयमर्थः—देवदत्तेन काष्ठैः स्थाल्यामोदनस्य पाकः इति पाकशब्दार्थेन
काष्ठादीनां कारकत्वेन सम्बन्धो दृश्यमान एवमेवोपपद्यते इति । अव्यापारात्मनि तु धात्वर्थे
नायं सम्बन्ध उपपद्यत इत्याह—अन्यथा अव्यापारे कारकसम्बन्धायोगादिति ॥ अव्यापारे

१. सिद्धेः—ख, ग, घ, ङ.

२. व्यपेक्षेति—ख, ग, घ, ङ.

३. ‘ तर्हि ’ नास्ति—ङ.

४. सोऽपि तथाभवन्वा आपादित—क ;
वस्तुतः सोऽपि तथाभवन् वा आपादित—
ख ; वस्तुतः सोऽपि तथा अतथा वा
भवन्वापादित—ग, घ, ङ.

५. घञादिष्वपि—ग, घ, ङ.

६. संबन्धना आकारत्वा—ख.

७. न वा तथा भवन् भावस्वशब्दैः—च.

८. पत्तिरिति—ङ.

त्कारकभावस्य । बुद्धिभेदस्तु पाकादिषु १प्रत्ययोपात्तेन २सिद्ध-
भावेनाभिभवात्, ३अनभिभवाच्च पचत्यादौ । ४तच्चानभिभूतं
रूपमन्यथाशक्यनिदर्शनं ५ व्यापारान्तरसंस्पर्शेनैव ६ निदर्शयन्ति ७
भावनाया इव । नच ८सिद्धसाध्यतयोरैकशब्दं ९ विरुद्धम् भेदाभेद-

धात्वर्थे कारकसम्बन्धस्यायोगादित्यर्थः । एतदेव प्रपञ्चयति—अव्यापारसम्बन्धिनः कारक-
त्वानुपपत्तेः क्रियासम्बन्धप्रभावितत्वात्कारकभावस्येति ॥ एतदुक्तं भवति—व्यापारसम्बन्धिन
एव कारकत्वम् न सिद्धपदार्थसम्बन्धिनः, राजपुरुषादिष्वदर्शनात् । नच घञन्तादिषु तिङभि-
धेयो व्यापारोऽस्ति । तस्माद्धात्वर्थ एव धातुना व्यापारात्मा अभिधीयते कारकसम्बन्धोपलब्धेरि-
त्यभिप्रायः । नन्वेवन्तर्हि घञन्ते तिङन्ते च धात्वर्थविषयः सिद्धसाध्यरूपेण बुद्धिभेदो दृश्यमानो
विरुध्येत, उक्तन्यायेन सर्वत्र साध्यताप्रतीतिप्रसङ्गादित्याशङ्क्याह—बुद्धिभेदस्तु पाकादिषु
प्रत्ययोपादानेन(त्तेन) सिद्धभावेनाभिभवादनभिभवाच्च पचत्यादाविति ॥ अयमाशयः—
घञाद्यन्तेषु घञादिप्रत्ययोपात्तेन सिद्धभावेन धात्वर्थसाध्यत्वस्याभिभवात् अनभिभवाच्च
पचत्यादौ नोभयत्र बुद्धिभेदो विरुध्यत इति ॥ यच्चार्थभेदनिदर्शनं कारणमुक्तम्, तदप्यन्यथा-
सिद्धत्वाच्च धात्वर्थातिरिक्तप्रत्ययाभिधेयभावनासद्भावसाधनायालमित्याह—तच्चानभिभूतं रूप-
मन्यथाशक्यनिदर्शनं व्यापारान्तरसंस्पर्शेनैव निदर्शयन्ति भावनाया इवेति ॥ अयमर्थः—
यद्धात्वर्थस्यानभिभूतं साध्यं रूपम्, न तद्व्यापारान्तरसंस्पर्शमन्तरेण शक्यते निदर्शयितुमिति
व्यापारान्तरसंस्पर्शेनैव १० निदर्शयन्ति, न व्यापारान्तरसत्तया, भावनाया इव—यथा भावनां

१. प्रत्ययोपादानेन—क, ख, ग, घ, ङ.

२. सिद्धभावानुभवात्—ग, घ, ङ.

३. अनभिभवात्पचत्यादौ—क, ख; अनभि-
भवति चत्यादौ—ग, घ, ङ.

४. न चानभि—ग, घ, ङ.

५. शक्यनिरूपणं—क, ख; शक्यम् घदर्शनं—
ग, घ, ङ.

६. 'एव' नास्ति—क, ख, ग, घ, ङ.

निदर्शनेन—ग, घ, ङ.

७. निदर्शयति—ग, घ, ङ.

८. सिद्धतासाध्यतयोः—क, ख; सिद्ध-
साध्ययोः—ग, घ, ङ.

९. ऐकाधिकरण्यं—क, ख

१०. निदर्शयति—ङ.

योरिव गोत्वादिषु, भिन्नप्रकृतिप्रत्ययोपादानत्वात् । १भाव्यरूप-
प्रतीतिनिदर्शनाभ्याश्च २ धात्वर्थस्य ३ तिङन्तेषु भावनामिच्छतो

करोतीति व्यापारान्तरसंस्पर्शेनैव तस्या अनभिभूतं साध्यरूपं ४ दर्शयन्त्यन्तरेणापि व्यापारा-
न्तरम्, तथेहापीति ५ । नन्वेकधात्वर्थसम्बन्धिनोः सिद्धसाध्यत्वयोरैकेन पाकशब्देनाभिधानं
विरुद्धमित्याशङ्क्याह—न च सिद्धसाध्यतयोरैकशब्दं विरुद्धम् मेदाभेदयोरिव गोत्वादि-
ष्विति ॥ अयमर्थः—गोत्वादिषु मेदाभेदयोरैकशब्दावगम्यत्वं यथा न विरुध्यते तथेहापि
सिद्धसाध्यत्वयोरित्यर्थः । शब्दभेदेनापीह विरोधस्सुपरिहर इत्याह—भिन्नप्रकृतिप्रत्ययो-
पादानत्वादिति ॥ पञ्चादिकया प्रकृत्या साध्यतोपादीयते, प्रत्ययेन तु घञादिना सिद्धता ।
अतः शब्दभेदान्न विरोध इत्यर्थः । उक्तञ्चेदमभियुक्तैः—

‘साध्यत्वेन क्रिया तत्र धातुरूपनिबन्धना ।

सिद्धभावस्तु यस्तस्याः स घञादिनिबन्धनः ॥’ इति ॥

दृष्टञ्च गोत्वाश्चत्वादिशब्देषु प्रकृतिप्रत्ययभेदेन मेदाभेदाभिधानम् । तत्र हि प्रकृति-
भूतेन गवादिशब्देनाभेद उपादीयते, गौः शाबलेय इति व्यक्तिसामानाधिकरण्यदर्शनात् ।
त्वत्तलादिना तु प्रत्ययेन गोत्वादेः सामान्यस्य शाबलेयादिव्यक्तिभ्यो भेद उपादीयते, शाबले-
यस्य गोत्वमिति वैयधिकरण्यदर्शनादिति । एवं ६ प्रतीतिभेदनिदर्शनयोरन्यथासिद्धत्वान्नार्थ-
भेदसिद्धिरित्युक्तम् । इदानीं तथा अभ्युगमेऽप्यनिष्टमापद्यत इत्याह—भाव्यरूपप्रतीति-
निदर्शनाभ्यां च धात्वर्थस्य तिङन्तेषु भावनामिच्छतो धात्वर्थस्य कर्मत्वप्रसङ्गः, करणत्वं

१. साध्यमावरूप—ग, ङ; साध्यरूप्यप्रती-
ति—घ.

२. ‘च’ नास्ति—क, ख.

३. ‘तिङन्तेषु’ नास्ति—ङ.

४. दर्शयन्त्यन्तरेणापि.

५. ‘इति’ नास्ति—छ.

६. प्रतीतिः—छ.

धात्वर्थस्य ^१कर्मत्वप्रसङ्गः, ^२करणत्वं न स्यात् । तस्माद्धात्वर्थ एव व्यापारात्मा ^३स्वशब्दोपादानः ^४फलभवनसमर्थो भावना क्रिया ^५चेति साम्प्रतम् ॥

तदेतदसमञ्जसम्^६—

^७दृश्यमाने वस्तुभेदे नेष्टा शब्दार्थमात्रता ।

प्रत्ययार्थेनाभिभवः सिद्धे तद्भावनिश्चये^८ ॥ ३२ ॥

न स्यात् इति ॥ अयमर्थः—धात्वर्थस्य साध्यताप्रतीत्या अर्थभेदनिदर्शनेन च प्रत्ययाभिधेयां भावनामिच्छतां भावनायां कर्मत्वं धात्वर्थस्यानिष्टं प्रसज्यते, करणत्वं चाभिप्रेतं हीयते, कर्मत्वेन प्रतीतिभेदार्थभेदनिदर्शनयोरभ्युपगमात् इति । उपसंहरति—तस्माद्धात्वर्थ एव व्यापारात्मा स्वशब्दोपादानः फलभवनसमर्थो भावना क्रिया चेति साम्प्रतमिति ॥ तस्मात् उक्तेन न्यायेन धात्वर्थ एव भावना ; क्रियापि धात्वर्थ एव, न ततोऽर्थान्तरम् ; स एव तु फलभवनसमर्थतयोपादानाद्भावनेत्युच्यते, व्यापारात्मनोपादानात्तु क्रियेति (इति) सर्वमुपपन्नम् ॥

तदेतत्सिद्धान्तवादी दूषयति—तदेतदसमञ्जसम् ;

^९दृश्यमाने वस्तुभेदे नेष्टा शब्दार्थमात्रता ।

प्रत्ययार्थेनाभिभवः सिद्धे तद्भावनिश्चयः(ये) ॥ इति ॥

१. कर्मता—ख.

२. करणत्वं तु न स्यात्—क, ख ; न करण-
त्वं स्यात्—ग, ङ.

३. धातुशब्दो—ख, ग, घ, ङ.

४. फलभावना—क, ख.

५. 'च' नास्ति—क, ख.

६. 'असमञ्जसम्' तथाहि—क, ख, ग,

घ, ङ.

७. विद्यमाने—क, ख.

८. निर्णये—क ; निर्णयः—ख, ग, ङ.

९. दृश्यमाने वस्तुभेदे इति—च.

१दर्शयिष्यते ह्यव्यापारात्मनो धात्वर्थाद्वेदवती क्रिया । अतो
न शब्दसामर्थ्यविलसितमेवैतदिति युक्तम्^२ । ३असति वस्तुनि तथा

अयमर्थः—यदुक्तं पूर्वपक्षवादिना शब्दोपकल्पित एवार्थभेदो न वास्तव इति, तदयुक्तम् । वस्तुभेदे दृश्यमाने शब्दार्थत्वमात्रस्य बाह्यवस्तुशून्यस्यानिष्टत्वात् । दृश्यते च धात्वर्थात्प्रत्ययार्थस्य भेदः प्रतीतिभेदनिदर्शनाभ्यामिति । यच्च सिद्धान्तवादिना अनवस्था-परिहाराय स्वयं व्यापाररूपत्वाद्भावनायाः साध्यतोप्रतीतौ न व्यापारान्तरापेक्षेत्युक्ते पूर्वपक्षवादिना तत्साम्यं धात्वर्थस्यापादयतोक्तम्—घञाद्यन्तेषु धात्वर्थसाध्यत्वस्याप्रतीतिः प्रत्ययार्थेन सिद्धभावेनाभिभवादुपपद्यत इति, तदप्यनुपपन्नम् । सिद्धे हि धात्वर्थस्य साध्य-स्वभावे प्रत्ययार्थेन सिद्धभावेनाभिभवाभिधानं युक्तम्^४ । न च तत्सिद्धौ प्रमाणमस्तीत्यभि-प्रायः । एतद्विवृणोति—दर्शयिष्यते ह्यव्यापारात्मनो धात्वर्थाद्वेदवती क्रिया । अतो न शब्दसामर्थ्यविलसितमेवैतदिति युक्तमिति ॥

अयमभिप्रायः—कर्तृकर्मसमवेतसंयोगविभागात्मकगुणविशेषादव्यापारात्मनो धात्व-र्थाद्विन्ना परिस्पन्दादिशब्दवाच्या क्रिया प्रतिपादयिष्यते—

‘ धातूनामभिधानीयान्कर्तृकर्मसमाश्रयान् ।
लब्धात्मनोऽक्रियारूपान्विशेषान्प्रतिजानते ॥’

‘ उदासीनत्वविच्छेदलक्ष्यं धात्वर्थकारणम् ।
स्पन्दव्यापारपर्यायं करोत्यर्थं प्रचक्षते ॥’ इत्यत्र ।

१. दर्शयिष्यते व्यापारात्मनो धात्वर्थाद्वेद- ३. असन्निहितवस्तुनि—ख.
वतीति, अतो—क; दर्शयिष्यते व्यापा- ४. ‘युक्तम्’ नास्ति—च.
रात्मनो धात्वर्थात्ममेदवदिति क्रिया—ख;
२. विलसितमेवेदं युक्तम्—क, ख; विल-
सितमिति युक्तम्—ग, ङ.

नाम भवेत् । सम्बन्धग्रहणापेक्षत्वाच्च ^१शब्दस्य न ^२वस्तुस्वरूप-
कलप्स्यै विभवः । ^३निश्चिते च धातुभिः ^४भाव्यताया इहोपादाने
अभिभवाभिधानं युक्तम् । ^५न च तथा, प्रमाणाभावात्, साधन-

अनेन (अतो न) शब्दसामर्थ्यविलसितमेवेदम्—तिङन्तेष्वर्थभेदप्रदर्शनं (इति) युक्तमिति ॥
भवेदपि कदाचिदसति वस्तुनि शशशृङ्गादौ ^६शब्दसामर्थ्यविलसितत्वकल्पना । नेह
वस्तुनोऽभावः सिद्ध इत्येतदाह—असति वस्तुनि तथा नाम भवेदिति ॥ नचैतदभ्युपगम-
क्षमम्, कचिदपि वस्तुरूपपरिकल्पनायां शब्दस्य सामर्थ्याभावादित्येतदाह—सम्बन्ध-
ग्रहणापेक्षत्वाच्च शब्दस्य न वस्तुस्वरूपकलप्स्यै विभव इति ॥ सम्बन्धग्रहणापेक्षया हि शब्दः
कार्यं जनयति, ^७न सत्तामात्रेण^८, तच्च शब्दस्य ज्ञापकत्वेऽवकल्पते, न कारकत्वे । न हि
बीजादीनामङ्कुरादिकारकाणां सम्बन्धग्रहणापेक्षा दृश्यते । अतोऽर्थस्य ज्ञापक एव शब्दः,
न तन्निर्माणप्रभुरित्यभिप्रायः । खपुष्पादिष्वपि वहिस्सन्त एवार्थाश्शब्दैरभिधीयन्ते,
वाक्यार्थात्मना असतामपि तेषां पदार्थात्मना कथञ्चिच्छब्दाद्बुद्धेश्च भेदेन सद्भावोपपत्तेरिति ॥

एवं श्लोकस्य पूर्वार्धं व्याख्यायाधुना परार्धं व्याचष्टे—निश्चिते च धातुभिर्भाव्यताया
इहोपादानेऽभिभवाभिधानं युक्तम् । न च तथा, प्रमाणाभावादिति ॥ अयमर्थः—साध्यस्वभा-
वेऽपि धात्वर्थे घञादिप्रत्ययाभिहितेन सिद्धभावेनाभिभवात्साध्यताया अप्रतीतिर्युक्तेति यदुक्तम्,
तदनुपपन्नम् । धातुभिः साध्यताया उपादाने निश्चिते एतदेवं स्यात् । नच तन्निश्चितम्, प्रमा-

१. 'शब्दस्य' नास्ति—क, ख.

२. वस्तुरूप—क, ख ; वस्तुरूपकलप्तौ—
ग, ङ ; वस्तुकलप्स्यै—घ.

३. निश्चिते तु—ग, घ, निश्चितेभिर्भावना-
होयोपादाने सति भावाभिभवाभिधानम्—ङ.

४. भाव्यतयोपादाने—क, ख ; भाव्यतये-
होपादाने—ग, घ, ङ.

५. न चेह तथा—ग, घ.

६. शृङ्गारादौ—छ.

७. भवेदपीति—छ.

८. 'न' नास्ति—च.

९. वार्तामात्रेण—छ.

सम्बन्धस्य^१ गम्यमानभावनाविषयत्वात्, ^२तथापि निदर्शनात्
'शङ्कुलया खण्डः' इति ।

^३विक्रियन्ति पचन्तीति न विशेषः ^४प्रकल्पते ।

ऋते व्यापारनानात्वात्कर्तृभेदोऽपि वै कुतः ॥ ३३ ॥

णाभावात् इति ॥ ननु घञन्तादिष्वपि कारकसम्बन्धो दृश्यते काष्ठैः पाक इति । स चैवमुपपद्यते
यदि धातुः साध्यतामाचक्षीत, नान्यथा । नहि तत्र प्रत्ययवाच्या भावना अस्तीत्युक्तमित्या-
शङ्क्याह—साधनसम्बन्धस्य गम्यमानभावनाविषयत्वात्तथापि निदर्शनात् शङ्कुलया ^५खण्डः
इ(तो)ति ॥ अयमभिप्रायः—यद्यपि पाकः इत्यादौ नाभिधीयते भावना, तदभिधायक-
शब्दाभावात्, तथाप्यर्थाद्गम्यते, पाकस्य तदविनाभावात् । गम्यमानभावनाविषयत्वेनापि
कारकसम्बन्ध उपपद्यते । यथा 'शङ्कुलया खण्डः' इत्यत्र शङ्कुलया कृतः खण्डः इति
गम्यमानकरोत्यर्थविषयः शङ्कुलायाः करणभावः, तथेहापि स्यादिति ।

तदेवं भेदप्रतीतिनिदर्शनयोरन्यथानुपपत्त्या धात्वर्थातिरिक्ता भावना अस्तीति साधि-
तम् । इदानीं एतदेव परपक्षेऽनिष्टप्रसङ्गापादनद्वारेण दर्शयति—

^६विक्रियन्ति पचन्तीति न विशेषः प्रकल्पते ।

ऋते व्यापारनानात्वात्कर्तृभेदोऽपि वै कुतः ॥ इति ॥

अयमर्थः—यद्येक एवार्थः साध्यतया धातुनोपादीयेत, ^७न च परं व्यापारं प्रत्यय
आचक्षीत, तदा (वि)क्रिदिपचिभ्यां विक्रित्तेरेवोपादानादर्थान्तरस्य चाभावात् विक्रियन्ति

१. संबन्धस्य च—ख.

२. तथा दर्शनात्—ग, घ, ङ.

३. क्रिञ्च-विक्रियन्ति—ख, ग, घ, ङ.

४. प्रकल्प्यते—ग, घ, ङ.

५. 'न' अधिकं वर्तते—छ.

६. विक्रियन्तीति—च.

७. नचापरं—छ.

न तावत्तिङन्तेषु धात्वर्थ एव व्यापारात्मोपादीयते, विक्लि-
द्यन्ति पचन्तीति १ धात्वर्थाभेदात्प्रत्ययाभेदप्रसङ्गात् । कर्तृभेदा-
न्नैवमिति चेत्—न, व्यापारभेदमन्तरेण तदनुपपत्तेः २ । यथा साध-
नानां नियोक्तृत्वे कर्तृलक्षणे यज्ञदत्तादय एव ३ कर्तारो न तण्डुलाः,
अभिधीयमानव्यापारत्वे तु तण्डुला एव ४ । अनेन भिनत्ति, ५ दलति,

पचन्तीति प्रतीतिविशेषो न स्यात् । (वि)क्लिदौ तण्डुलाः कर्तारः, पचौ तु देवदत्तादयः कर्तारः
इति प्रतीतिभेदो भविष्यतीति चेन्न । धात्वर्थाद्यतिरिक्तेन (क्तात्) विना कर्तृभेदस्यानुपपत्ते-
रिति श्लोकस्यार्थः । अत्यैव प्रपञ्चः—न तावत्तिङन्तेषु धात्वर्थ एव व्यापारात्मोपादीयते
विक्लिद्यन्ति पचन्तीति धात्वर्थाभेदात्प्रत्ययाभेदप्रसङ्गादिति । अनेन श्लोकपूर्वार्धस्यार्थः
प्रपञ्चितः । नात्र तिरोहितमिव किञ्चिदस्ति । उत्तरार्धव्यावर्त्यामाशङ्कां दर्शयति—कर्तृभेदा-
न्नैवमिति चेदिति ॥ अयमर्थः—कर्तृभेदात्क्रियाभेदः, ततश्च विक्लिदिपच्योरर्थभेदः । तथा
हि—पचन्तीत्यत्र देवदत्तादयः कर्तारः, विक्लिद्यन्तीत्यत्र तु तण्डुलाः । अतः कर्तृभेदाद्व्यापार-
भेदः ततश्च बुद्धिभेदोऽप्युपपद्यते इति । अत्रोत्तरमाह—न, व्यापारभेदमन्तरेण तदनुपपत्ते-
रिति ॥ व्यापारभेदमन्तरेण तत्र कर्तृभेदस्यानुपपत्तेर्न कर्तृभेदात्प्रत्ययभेद उपपद्यत इति ।
एतदेव प्रपञ्चयति—यथा साधनानां नियोक्तृत्वे कर्तृलक्षणे यज्ञदत्तादय एव कर्तारो न
तण्डुलाः । अभिधीयमानव्यापारत्वे तु तण्डुला एवेति ॥ अयमर्थः—अत्र कर्तृभेदं वदता
इदं वक्तव्यम्, किं साधनानां नियोक्तृत्वं कर्तृलक्षणम् ? किं वा धातुना अभिहितव्यापार-
त्वम् ? आद्ये कल्पे यज्ञदत्तादय एव कर्तारो न तण्डुलाः, तेषामचेतनत्वात् साधननियोगा-

१. धात्वर्थभेदात्—ख.

२. —पत्तेः । तथाहि साधननियोक्तृत्वे—क,
ख ; साधनानां नियोक्तृत्वे—ग, घ, ङ.

३. कर्तारो न अभिधीयमान—ख ; कर्तारो
न तण्डुलाः । अष्टुणतया धातुना अभि-
मान—ग, घ, ङ.

४. एव कर्तारः । एतेन—क, ग, घ, ङ ;

एव । एतेन—ख.

५. विदलति—ग, घ, ङ.

छिनत्ति, द्विधाभवतीत्यादयो व्याख्याताः । तस्माद्धात्वार्थातिरिक्तो व्यापार उपेयः, यत्कृतोऽर्थभेदः कर्तृभेदश्च ॥

अपरः कल्पः—स्यान्मतं ^१कर्मसमवायिक्रियेष्वेव धात्वार्थातिरिक्तो व्यापारो ^२गम्यते । कर्तृस्थक्रियेषु कथम् ^३? । उच्यते—

योगात् । द्वितीये तु कल्पे उभयत्रापि तण्डुला एव कर्तारः स्युः । (वि)क्लिदिना पचिना च विक्लितिलक्षणस्य तद्व्यापारस्याभिधानात् । विक्लियन्ति पचन्तीत्यत्रोपदिष्टं बुद्धिभेदाभावप्रसङ्गं विषयान्तरेऽतिदिशति—अनेन भिनत्ति, दलति, छिनत्ति, द्विधाभवतीत्यादयो व्याख्याता इति ॥ उपसंहरति—तस्माद्धात्वार्थातिरिक्तो व्यापार उपेयो यत्कृतोऽर्थभेदः कर्तृभेदश्चेति ॥ तस्मादुक्तदोषपरिहाराय धात्वर्थव्यतिरिक्तो व्यापारोऽभ्युपगन्तव्यः, येनार्थभेदः कर्तृभेदश्च भवेत् । कथं पुनः व्यापारान्तराभ्युपगमेऽर्थभेदः कर्तृभेदश्च ? उच्यते । यद्यपि क्लिदेः पचेश्च विक्लितिलक्षणोऽर्थः समानः तथापि विक्लियन्तीत्यस्मिन्पदे विक्लित्तिपदार्थाव(द)धिकः ^४स्थाल्युदरपरिभ्रमणादिलक्षणः ^५ तण्डुलसमवाय्यन्यो व्यापार उपादीयते । अतो विक्लित्वत्सोऽपि प्रतीयते । तण्डुलानां च कर्तृत्वं गम्यते । पचन्तीत्यत्र देवदत्तादिसमवाय्यधिश्रयणादिलक्षणो विक्लित्वव्यतिरिक्तोऽन्योऽपि व्यापारो विक्लित्वदुपादीयते । देवदत्तादयश्च कर्तारः प्रतीयन्ते । एवं भिनत्ति, दलति, छिनत्ति, द्विधा भवतीत्यादि द्रष्टव्यम् । अतोऽर्थभेदकर्तृभेदावस्यत्पक्ष एवोपपद्येते ॥

इदानीं ‘ऋते व्यापारे’ त्यादिश्लोकोत्तरार्धव्याख्यानान्तरं विकल्पेन दर्शयितुमाह—अपरः कल्प इति ॥ अपरो व्याख्याप्रकारः प्रदर्श्यत इत्यर्थः । तत्र प्रथमं ^६तद्व्यावर्त्यामाशङ्कं दर्शयति—स्यान्मतं कर्मसमवायिक्रियेष्वेव धात्वार्थातिरिक्तो व्यापारो गम्यते,

१. कर्मसमवेत—ख.

२. व्यापारोऽभ्युप—ग, घ, ङ.

३. कथमिति—क, ख, ग, घ, ङ.

४. वधिकस्थाल्यु—छ.

५. लक्षणतण्डुल—छ.

६. तावद्व्यावर्त्या—च.

ऋते व्यापारनानात्वात्कर्तृभेदोऽपि वै कुतः ? ।

‘ऋत्विजो यजन्ति’ ‘यजते यजमानः’ इत्यगुणतो धातुना
१अभिधीयमानव्यापारस्य कर्तृत्वात् सङ्कल्पविशेषस्य २च यज्यभि-
धेयस्य यजमानव्यापारत्वात् ‘यजन्ति याजकाः’ इत्यनुपपत्तिः ।
धात्वर्थातिरिक्तव्यापारप्राधान्यविवक्षायां ३नूपपद्यते । नन्वनभि-

कर्तृस्थक्रियेषु कथमिति ॥ अयमर्थः—विक्लिद्यन्ति पचन्तीत्यादौ बुद्धिभेदलक्षणो (यो) हेतुः
विक्लित्यादिधात्वर्थातिरिक्तव्यापारप्रसाधनायोपन्यस्तः, स न सार्वत्रिकः । ये कर्मसमवायि-
क्रियाः पचत्यादयः तेष्वेवानेन हेतुना धात्वर्थातिरिक्तो व्यापारो गम्यते । ये पुनः कर्तृस्थ-
क्रियाः आस्ते, शेते, ४यजतीत्येवमादयः तेषु कथं धात्वर्थातिरिक्तो व्यापारो गम्यते ? नहि
तत्रायं हेतुर्विधत् इति । एतन्निराकरणाय श्लोकोत्तरार्धमवतारयति—उच्यते—ऋते व्या-
पारनानात्वात्कर्तृभेदोऽपि वै कुतः इति ॥ यजत्यादौ व्यापारनानात्वादृते कर्तृभेदः ऋत्वि-
ज्यजमानभेदेन दृश्यमानो नोपपद्यत इति । अस्यार्थस्य स्पष्टीकरणायाह—ऋत्विजो यजन्ति,
यजते यजमानः इत्यगुणतो धातुना ५अभिधीयमानव्यापारस्य कर्तृत्वात्सङ्कल्पविशेषस्य च
यज्यभिधेयस्य ७ यजमानव्यापारत्वात् यजन्ति याजका इत्यनुपपत्तिः । धात्वर्थातिरिक्त-
व्यापारप्राधान्यविवक्षायान्तूपपद्यत इति ॥ अयमर्थः—‘ऋत्विजो यजन्ति’, ‘यजते
यजमानः’ इत्यृत्विजां यजमानस्य च यजत्यर्थे कर्तृत्वं दृश्यते । तत्र धात्वर्थातिरिक्तव्यापारा-
न्तरस्याभिधेयस्यानभ्युपगमे यजन्ति याजका इति नोपपद्यते । कुतः ? अगुणतो धातुना अभि-
धीयमानव्यापारस्य कर्तृत्वात् । यस्य हि व्यापारो धातुना प्राधान्येनाभिधीयते स कर्तेति

१. विधीयमा(न)व्यापारस्याकर्तृ—ङ.

२. ‘च’ नास्ति—क, ख.

३. ‘तु’ नास्ति—ङ.

४. यजतीत्यादयः—ङ.

५. नानात्वादिति—च.

६. अभिधेयस्य—ङ.

७. ‘च’ अधिकं वर्तते—च, छ.

८. इत्यर्थः—च.

धानेऽपि व्यापारभेदस्य^१ द्रव्यपरित्यागसङ्कल्पमात्रस्याभिधानेऽपि यजतिना स्वातन्त्र्यविवक्षाभेदात् कर्तृभेदः करणभेद इवातिशय-विवक्षाभेदादुपपद्यते । किमिदं स्वातन्त्र्यम्^२ साधनानां^३ नियोक्तृ-

कर्तृलक्षणम् । साधननियोगस्य^४ कर्तृलक्षणत्वे तण्डुलादीनामचेतनानां कर्तृत्वाभावप्रसङ्गात् । अत्र च द्रव्यपरित्यागसङ्कल्पो यज्यभिषेयो यजमानस्य व्यापारः नर्त्विजाम्^५ । अतः तेषां धातुना अभिधीयमानव्यापारस्य कर्तृलक्षणस्य (अ)भावात् ‘यजन्ति याजकाः’ इत्यनुपपत्तिः । यदा पुनः धात्वर्थातिरिक्तो व्यापारः तन्निर्वर्तन^६समर्थः प्राधान्येन प्रतिपाद्यते तदोपपद्यते, यजमानगतसङ्कल्पविशेषनिर्वर्तन^६समर्थस्य व्यापारस्य ऋत्विक्ष्वपि भावात् तत्र तेषां कर्तृत्वोपपत्तेरिति । ७ तत्र चोदयति—नन्वनभिधानेऽपि व्यापारभेदस्य द्रव्यपरित्यागसङ्कल्प-मात्रस्याभिधानेऽपि यजतिना स्वातन्त्र्यविवक्षाभेदात् कर्तृभेदः करणभेद इवातिशयविवक्षा-भेदादुपपद्यत इति ॥ अयमर्थः—अनभिधानेऽपि व्यापारभेदस्य, द्रव्यपरित्यागसङ्कल्पमात्र-स्याभिधानेऽपि यजतिना स्वातन्त्र्यविवक्षाभेदात्कर्तृभेद उपपद्यते । यदा यजमानस्य स्वातन्त्र्यं विवक्ष्यते तदा यजमानस्य कर्तृत्वम्, यदा तु ऋत्विजां स्वातन्त्र्यं विवक्ष्यते तदा तेषां कर्तृत्वम्, यथा साधकतमत्वविवक्षाभेदात्करणभेदः—‘यदा हि छेदने परशोः साधकतमत्वं विवक्ष्यते तदा ‘परशुना छिनत्ति’ इति परशोः करणत्वं प्रतीयते । यदा तु हस्तस्य, तदा तस्य करणत्वम्, हस्तेन छिनत्तीति । एवमत्रापि धात्वर्थातिरिक्तव्यापारा(न)भिधा-नेऽपि धात्वर्थ एवैकस्मिन्स्वातन्त्र्यविवक्षाभेदाद्वृत्तिजां यजमानस्य च कर्तृत्वमुपपद्यत इति ॥

एतन्निराकर्तुं स्वातन्त्र्यलक्षणं पृच्छति—किमिदं स्वातन्त्र्यमिति । अत्र परं(रः)

१. व्यापारभेदस्य स्वातन्त्र्यविवक्षाभेदात्कर्तृ-

भेदः—ग, घ, ङ.

२. नियोजकत्वम्—ङ.

३. कर्तृलक्षणत्वेन—च.

४. नर्त्विजादतः—च.

५. समर्थ—च.

६. समर्थव्यापारस्य—च.

७. ‘तत्र’ नास्ति—च.

८. यथा हि—च.

त्वम् । काष्ठादीनि पचन्तीति कथम् ? नियोज्यान्तराभावात्
१नियोगविवक्षया प्रयोगो न स्यात् । तस्मात्प्राधान्येन प्रतिपाद्य-
मानव्यापारता स्वातन्त्र्यमित्यास्थेयम्^२ । तथा चोक्तम्—^३‘स्थालीस्थे
यत्ने कथ्यमाने स्थाली स्वतन्त्रा ’ इति ॥

परिहारमाह—साधनानां नियोक्तृत्वमिति ॥ कारकान्तरनियोक्तृत्वं स्वातन्त्र्यमित्यर्थः ।
एतत्स्वातन्त्र्यलक्षणं दूषयितुमाह—काष्ठादीनि पचन्तीति कथमिति ॥ काष्ठादीनि सर्वाणि
कारकाणि पचन्तीति प्रयोगोऽस्मिन्पक्षे कथम् ? न कथञ्चिदप्युपपद्यत इत्यर्थः । का अत्रानुप-
पत्तिरिति चेत् तत्राह—नियोज्यान्तराभावान्नियोगविवक्षया प्रयोगो न स्यादिति ॥ अय-
मर्थः—काष्ठादीनीत्यादिशब्देन सर्वेषां कारकाणां नियोक्तृपक्षनिक्षेपात् नियोज्यान्तरस्या-
भावात् नियोज्याभावे च नियोक्तृत्वविवक्षानुपपत्तेः योऽयं सर्वेषां काष्ठादीनां नियोगविवक्षया
प्रयोगः पचन्तीति कर्तृप्रत्ययान्तस्य शब्दस्य, स न स्यात् । तस्मान्नेदं स्वातन्त्र्यलक्षणं
सम्भवति । किं पुनस्तदित्यपेक्षायामाह—तस्मात्प्राधान्येन प्रतिपाद्यमानव्यापारता *स्वातन्त्र्य-
मित्यास्थेयमिति ॥ एतदेव च स्वातन्त्र्यलक्षणं महाभाष्यकृताप्यङ्गीकृतमित्याह—तथा-
चोक्तम्—स्थालीस्थे यत्ने कथ्यमाने स्थाली स्वतन्त्रेति ॥ अत्र हि स्थालीगतस्य व्यापारस्य
प्राधान्येन कथने सति स्थाल्याः स्वतन्त्रता भवतीत्यभिधानात्प्राधान्याभिहितं(त)व्यापारत्वं
स्वातन्त्र्यलक्षणमङ्गीकृतमिति गम्यते ।

नन्वस्मिन्नपि स्वातन्त्र्यलक्षणे काष्ठादीनि पचन्तीति प्रयोगानुपपत्तिः समाना, प्राधा-
न्याभिहितव्यापारत्वस्यापि तत्राभावात् । अप्रधानापेक्षं हि प्रधानम् । न चेह कस्यचिदपि
व्यापारोऽप्राधान्येनाभिधीयते, सर्वेषां काष्ठादिव्यापाराणां तुल्यवदभिधानात् । तस्मान्नेदमपि

१. नियोक्तृत्वविवक्षया—क, ख ; नियोक्तृ-
त्वविवक्षाप्रयोज्ये—ग, घ ; नियोक्तृत्व-
विवक्षाप्रयोगो—ङ.

२. ‘इत्यास्थेयम्’ नास्ति—ग, घ, ङ.

३. स्थालीस्थे प्रयत्ने—ग, घ ; स्थालीस्था-
यत्नेन कथ्यमाने—ङ.

४. स्वातन्त्र्यमित्यस्त्ययमिति—ङ.

भवतु व्यापारभेदः, (स च) १धातूपादान एवास्तु । २तथा च
३पचिना ४देवदत्तादिव्यापारोपादानात् ५विक्लिदिना चानुपादानात्
‘६विक्लिद्यन्ति’ ‘पचन्ति’ इत्यर्थभेदकर्तृभेदौ । ७यजिना च

स्वातन्त्र्यं कर्तृलक्षणं सम्भवतीति । अत्रोच्यते । अगुणभावमात्रमिह प्राधान्यमुच्यते, तच्च
काष्ठादि-व्यापारेष्वप्यस्तीति ‘काष्ठादीनि पचन्ति’ इति प्रयोगोपपत्तिरिति ॥

इदानीं प्रतिपादितं व्यापारभेदमभ्युपगम्य तस्य प्रत्ययाभिधेयतामसहमानः ९परः
प्रत्यवतिष्ठते—भवतु व्यापारभेदः, (स च) धातूपादान एवास्त्विति ॥ अत्रायमर्थः—
भवतु व्यापारद्वयाभिधेयत्वं पच्यादौ; तच्च धात्वभिधेयमेवास्तु न प्रत्ययाभिधेयम्, प्रत्ययाभि-
धेयस्तु कर्ता कर्तृसङ्ख्या वेत्यभिप्रायः । अस्मिन्नपि पक्षे ‘विक्लिद्यन्ति’ ‘पचन्ति’ इत्यर्थ-
भेदकर्तृभेदौ न विरुध्यते इत्याह—तथा च पचिना देवदत्तादिव्यापारोपादानाद्विक्लिदिना
चानुपादानात् ‘विक्लिद्यन्ति’ ‘पचन्ति’ इत्यर्थभेदकर्तृभेदाविति ॥ अयमर्थः—योऽयं
देवदत्ताद्याश्रितो व्यापारोऽधिश्चयणादिः सोऽपि पचिनोपादीयते, न तण्डुलाश्रितविक्लिचि-
मात्रम् । (वि)क्लिदिना तु विक्लिचिमात्रमेवाभिधीयते, न पुनर्देवदत्तव्यापारोऽधिश्चयणादि-
पीत्यर्थभेदकर्तृभेदानुपपद्यते इति । भवत्ये(त्वे)वं कर्मस्थक्रियेषु पचत्यादिषु कर्तृभेदः । कर्तृस्थ-
क्रियेषु तु यजत्यादिषु ‘यजते यजमानः’ ‘यजन्ति याजकाः’ इत्येवं प्रतीयमानः
कर्तृभेदः कथमुपपद्यते । नहि तत्रैवंविधो भेदहेतुरस्तीत्याशङ्कापाकरणायाह—यजिना

१. धातूपादान एव सः—क, ख ; धातूपादान

एव तु सः—ग, घ, ङ

२. तथा हि—ग, घ.

३. पचतिना—क, ख.

४. देवदत्तव्यापारो—क, ख, ग, घ, ङ.

५. ‘विक्लिदिना चानुपादानात्’ नास्ति—

क ; विक्लिदिना अनुपादानात्—ख ;

विक्लिचिना अनुपादानात्—ङ.

६. विक्लिद्यन्तीत्यर्थ—क, ख.

७. यजतिना—ग, घ, ङ.

८. व्यापारेष्वस्तीति—च.

९. परं—ङ.

१ ऋत्विजां व्यापारस्य २ तादर्थ्यादभिधानाद्ऋत्विजां कर्तृत्वोपपत्तिः।
३ यथोक्तम्—‘तदभिसन्धिपूर्वकं प्रेषणमध्येषणं वा ४ युक्तं तत्सर्वं
५ पच्यर्थः’ इति ॥

६ नैतत्सारम्—

चत्विजां व्यापारस्य तादर्थ्यादभिधानात् ऋत्विजां कर्तृत्वोपपत्तिरिति । यजमानगतसङ्कल्प-
विशेषवाचिना यजिना ऋत्विग्व्यापारस्यापि तादर्थ्यात्तन्निर्वर्तनार्थत्वात् अभिधानम्, ततश्चा-
भिधीयमानव्यापारत्वाद्ऋत्विजां कर्तृत्वोपपत्तिः । यजमानव्यापारवचनतया प्रसिद्धेन यजिना
तद्व्यतिरिक्तस्यत्विग्व्यापारस्यापि ७ तादर्थ्यादभिधानं सम्भवति इत्येतद्भाष्यग्रन्थोदाहरणेन
द्रढयति—यथोक्तम्—तदभिसन्धिपूर्वकं प्रेषणमध्येषणं वा, युक्तं तत्सर्वं पच्यर्थ इति—
(इति) ॥ अस्यायमर्थः—तदभिसन्धिपूर्वकं पाकाभिसन्धिपूर्वकं यत्प्रेषणादि८ क्रियते, तत्सर्वं
पाकार्थत्वात्पच्यर्थ इति युक्तमिति । तत्र ‘हेतुमति च’ इति सूत्रस्यार्थविचारावसर
(रे प्रेषणादेरपि धात्वर्थत्वसंभव) प्रदर्शनायेदमुक्तम् । एवं हि तत्र विचारः कृतः—हेतुमति
चेति सूत्रस्य कोऽर्थः ? किं हेतुमति वर्तमानाद्धातोः णिजिति, किं वा हेतुमत्यभिधेये
णिजिति । तत्र धातोरेव हेतुमति वर्तमानत्वं भवतीति प्रतिपादनेन ९ विचारार्हत्वमस्यार्थस्य
प्रदर्शयितुं पाकव्यतिरिक्तस्य तदभिसन्धिपूर्वकस्य प्रेषणादेरपि पच्यर्थत्वमुक्तम् । अतो यजिना
यजमानव्यापारवाचिनो तादर्थ्याद्ऋत्विग्व्यापाराभिधानसम्भवाद्ऋत्विजां १० यजत्यर्थे कर्तृत्वोपपत्ति-
रिति साधूक्तम् । ततश्च धात्वर्थातिरिक्तप्रत्ययाभिधेयो व्यापारो नास्तीति स्थितम् ।

एतन्निराकरोति—(नैतत्सारम्)—

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| १. ऋत्विग्व्यापारस्य—क, ख, ग, घ, ङ. | ६. तत्र—क, ख. |
| २. तादर्थ्याभिधानात्—क, ख ; तादर्थ्येना- | ७. सामर्थ्यादभि—छ. |
| ३. तथा चोक्तम्—ख, ग, घ. | ८. प्रेषणं—च. |
| ४. यत्तत्सर्वं—क, ख, ग, घ, ङ. | ९. विचार्यत्वमस्य—छ. |
| ५. पच्यर्थः—ख. | १०. ‘यजत्यर्थे’—नास्ति—च. |

विक्रित्तिमात्रसङ्कल्पविशेषैकावलम्बनौ ।

ज्ञायमानतदर्थत्वा^२न्नेष्टावन्याभिधायिनौ ॥ ३४ ॥

३‘पाकः’ ‘यागः’ इति *विक्रित्तिमात्रं सङ्कल्पमात्रं चा-
चक्षाते पचियजी, न तदतिरिक्तं कर्तृव्यापारम्, पाकस्य क्रिये-

विक्रित्तिमात्रसङ्कल्पविशेषैकावलम्बनौ ।

ज्ञायमानतदर्थत्वान्नेष्टावन्याभिधायिनौ ॥ (इति) ॥

विक्रित्तिमात्रं सङ्कल्पविशेष^१श्चैकोऽवलम्बनं ययोस्तावेतौ विक्रित्तिमात्रसङ्कल्प-
विशेषैकावलम्बनौ पचियजी । विक्रित्तिमात्रमिति मात्रशब्देन विक्रित्तिव्यतिरिक्तस्य देव-
दत्ताद्याश्रितस्याधिश्रयणादेः पचिवाच्यत्वं व्यावर्तितम् । सङ्कल्पविशेषैकेत्यत्रैकशब्देन तद्व्यति-
रिक्तस्य त्विव्यापारस्य यजिवाच्यत्वं व्यावर्तितम् । कथं पुनरन्य(न)योरेतावन्मात्रार्थत्वमव-
धारितम् ? घञन्तयोस्तथात्वावधारणात् । ननु घञन्तयोस्तावन्मात्रार्थत्वेऽपि तिङन्तयोरर्थान्तर-
वचनत्वं कस्मान्नेप्यते ? यथा अक्षादिशब्दानां कचित्प्रयोगेऽवगतादर्थादर्थान्तरवचनत्वं प्रयो-
गान्तरे गृह्यते तद्वदित्याशङ्कापाकरणायोक्तम्—ज्ञायमानतदर्थत्वादिति ॥ स एवार्थस्तदर्थः स
ज्ञायमानः प्रत्यभिज्ञायमानः घञन्ततिङन्तयोः प्रयोगयोः पचियज्योर्दृश्यते । अतो नान्यार्थ-
वाचिनाविष्टाविति श्लोकस्यार्थः । अस्यैव स्पष्टीकरणायाह—‘पाकः’, ‘यागः’ इति
विक्रित्तिमात्रं सङ्कल्पमात्रं चाचक्षाते पचियजी, न तदतिरिक्तं कर्तृव्यापारम्, पाकस्य क्रिये-
त्यनिदर्शनात् इति ॥ अयमर्थः—‘पाकः’ इत्यत्र तावत्प्रयोगे (पचि.) विक्रित्तिमात्रमाचष्टे,

१. यजमानतदर्थत्वात्—क, ख.

२. नैष्टापत्यभिधायिनौ—क.

३. भावाभिधायिनौ पाको याग इति—
ग, घ, ङ.

४. विक्रित्तिमात्रं चाचक्षाते—ख ; विक्रित्ति-
सङ्कल्पमात्रवादिनीति—ङ.

५. पचतियजती—ग, घ.

६. तदतिरिक्तौ कर्तृव्यापारौ—ख, ग, घ, ङ

७. क्रिया सिद्धेऽनिदर्शनात्—ग, ङ ; क्रि-
यासिद्धेऽनिलदर्शनात्—घ.

८. विक्रिणीति—च.

९. श्वैकावलम्बनं—छ.

न तद्व्यतिरिक्तमधिश्रयणादिकं कर्तृव्यापारम् ; ' यागः ' इत्यस्मिन्प्रयोगे यजिरपि यजमानगतं द्रव्यत्यागसङ्कल्पमात्रम् , न तद्व्यतिरिक्तमृत्विग्यापारम् । कथं गम्यते ? पाकस्य क्रियेत्यर्थभेदनिदर्शनाभावात् । यथा ' पचति ' इत्यस्य पाकं करोतीति भेदेनार्थो निदर्श्यते न तथेह निदर्श्यते, किन्तु एक एव विक्लितिरिति । अतस्तत्र विक्लितिमात्रमर्थ इति ॥

का पुनरियं विक्लितिर्नाम ? यत्र पाकशब्दो वर्तते । उच्यते । उदकसंस्कारान्यवयवाभिघातेन तण्डुलेषु कर्मात्पद्यते ; ततश्च तदवयवेषु विभागलक्षणो गुणविशेष उत्पद्यते ; पुनश्च तेनैव हेतुना प्रशिथिलसंयोगलक्षणो गुण उत्पद्यते ; स विक्लितिशब्देनोच्यते पाकशब्देन च । तस्य चौदनं प्रति प्रत्यासन्नत्वात्करणत्वमुपपद्यते १ कर्मफलत्वाच्च तस्य तद्द्वारेण काष्ठादिभिः कारकैः सम्बन्धः इति ॥

अन्ये तु मन्यन्ते—तण्डुलावयवगतं २ कर्मैव विक्लेदनमिति, साक्षात्कारकसम्बन्धोपपत्तेः । तस्य चौदनं प्रति करणत्वं संयोगविभागद्वारेण समर्थयन्ति ।

ननु विक्लित्तिरेव चेत्पाकशब्दस्यार्थः कथं तदभावे प्रयोगः ? दृश्यते चेष्टकाः पचन्तीति । न चेष्टकासु विक्लेदनमस्ति । तस्मादेक एव पाकशब्दस्यार्थो ग्राह्यः । उच्यते—पच्यमानद्रव्यावयवसंयोगविभागौ पचिर्न व्यभिचरति, इष्टकादिष्वपि तयोर्भावात् । विक्लित्तिस्तु पच्यर्थविशेषः । न सर्वः पच्यर्थो विक्लित्तिरेव । नहि यत्र पचिः प्रयुज्यते तत्र सर्वत्र विक्लिदिः प्रयुज्यते, किन्तु संयोगविभागविशेष एव तण्डुलावयवसमवायिनि प्रयुज्यते ' विक्लिद्यन्ति तण्डुलाः ' इति, न पुनः ' इष्टका विक्लिद्यन्ति ' इत्यादिप्रयोगो दृश्यते । अत्र पचेः विक्लितिमात्रार्थत्वाभिधानं विशेषाभिप्रायं द्रष्टव्यम् ।

अपरे तु सन्तापनं पच्यर्थमाहुः । किं पुनः सन्तापनं नाम ? अग्निना तण्डुलादीनां संयोगः । अस्मिन्नपि पक्षे, विक्लित्तिरपि तद्विशेष एव । सर्वथापि तण्डुलादिकर्मकारक-

ल्यनिदर्शनात् ।

तथा ‘पच्यन्ते तण्डुलाः स्वयमेव’ ‘यजते यजमानः’ इति,

समवायी पचेरर्थः^१, न देवदत्तादिसमवाय्यधिश्रयणादिः । कथं पुनस्तण्डुलादिसमवायिनि पच्यर्थे देवदत्तस्य कर्तृत्वम् ‘पचति देवदत्तः’ (इति)? इति चेत्—उच्यते । असमवे-
तस्यापि देवदत्ते पच्यर्थस्य तदधीनात्मलाभवत्त्वात्^२ तत्कर्तृ(क)त्वं न विरुध्यते । कथं पुन-
रक्रियात्मके पच्यर्थेऽभ्युपगम्यमाने तस्य कारकसम्बन्ध इति चेत्—अस्योत्तरं ‘परोपाधि-
क्रियारूपः’ इत्यत्र वक्ष्यते । अतः षाकयोगशब्दयोः विक्लित्तिमात्रं सङ्कल्पमात्रं चार्थः
नान्यः कर्तृव्यापार इत्यनवद्यम् ।

ननु घञन्तस्य पच्यादेः विक्लित्तिमात्रार्थत्वेऽपि आख्यातसम्बन्धिनस्तस्य विक्लि-
त्यादिव्यतिरिक्तः कर्तृव्यापारोऽप्यर्थ एव । तथा पचतीत्युक्ते न विक्लित्तिमात्रं प्रतीयते,
किन्तु तद्व्यतिरिक्तः कर्तृव्यापारोऽधिश्रयणादिः । ततः सोऽपि तदर्थ एव भवितुमर्हतीति
यत्कौश्लदुच्यते, तन्निराकरणायाह—तथा ‘पच्यन्ते तण्डुलाः स्वयमेव’, ‘यजते यजमानः’
इति तन्मात्रस्यैव तद्व्यापारत्वाभ्युपगमादिति । अयमर्थः—‘पच्यन्ते तण्डुलाः स्वयमेव’
इति कर्मकर्तृविषयोऽयं (यः) पचिः, यश्च ‘यजते यजमानः’ इति यजमानकर्तृविषयो
यजिः, तावाख्यातप्रत्ययान्तावपि विक्लित्तिमात्रं सङ्कल्पमात्रं चाचक्षते इत्यभ्युपगन्तव्यम् ।
तत्र हेत्वपेक्षायामुक्तम्—तन्मात्रस्यैव तद्व्यापारत्वाभ्युपगमादिति ॥ तन्मात्रस्य विक्लित्तिमात्रस्य
सङ्कल्पमात्रस्य च, तद्व्यापारत्वाभ्युपगमात् कर्तृव्यापारत्वाभ्युपगमात् । नहि तत्र तद्व्यति-
रिक्तः कर्तृव्यापारोऽभिधेयोऽभ्युपेयते भवता । अस्माभिस्तु तत्रापि विक्लित्यादिधात्वर्थै-
कार्थसमवाय्यन्यः कर्तृव्यापारः प्रत्ययाभिधेयः उपेयत एव । तस्मात्प्रचियज्योर्घञन्तयोः

१. पचेरर्थो हि देव—च.

२. लाभत्वात्—छ.

३. ‘तन्मात्रस्यैव’ इत्यारभ्य ‘यश्च यजते यज-
मानः इति’ पर्यन्तो ग्रन्थः नास्ति च—मातृ-
कायाम् ।

तन्मात्रस्यैव तद्व्यापारत्वाभ्युपगमात् । तथा च 'पचति देव-
दत्तः', 'यजन्ति याजकाः' इति प्रज्ञायमानतदर्थस्य नार्थान्तर-
विषयत्वं युक्तम् ।

अव्यभिचाराद्धि तावन्मात्रमर्थः, नाधिकम्, व्यभिचारात्,
शब्दान्तरनिबन्धनत्वाच्च, प्रत्ययागमे हि प्रतीयमानः तदर्थ एव

आख्यातप्रत्ययान्तयोरपि कर्मकर्तृ[विषययो]र्यजमानकर्तृविषययोः^७ विक्लित्तिमात्रसङ्कल्प-
विशेषैकालम्बनत्वस्याभ्युपेयत्वान्नार्थान्तरवचनत्वमन्यत्रापि युक्तमिति । एतदर्थयति—
तथा च पचति देवदत्तो यजन्ति याजकाः इति प्रज्ञायमानतदर्थस्य नार्थान्तरविषयत्वं युक्त-
मिति । अत्र प्रज्ञायमानतदर्थत्वं हेतुत्वेनोक्तम् । पाको यागः, पच्यन्ते स्वयमेव तण्डुलाः,
यजतयजमानः इत्यत्र यादर्थो पचियज्योः समधिगतौ विक्लित्तिमात्रसङ्कल्पमात्रलक्षणौ, तावेव
प्रज्ञायते 'पचति देवदत्तः' 'यजन्ति याजकाः' इत्यत्रापि । अतस्तादर्थ्यमेव युक्तमिति ॥

ननु तादर्थ्यं भवतु, तावन्मात्र(त्रार्थत्व)न्तु कस्माद् ? अधिकार्थत्वेऽपि तादर्थ्या-
विरोधादित्याशङ्क्याह—अव्यभिचाराद्धि तावन्मात्रमर्थो न अधिकम्, व्यभिचारादिति ॥ पचि-
यज्योर्विक्लित्तिसङ्कल्पमात्रमेवार्थः, अव्यभिचारात् । नाधिकपक्षिश्चरणादिकं कर्तृव्यापाररूपम्;
व्यभिचारात् । यो हि शब्दो यमर्थं न व्यभिचरति स तदर्थो ग्राह्यः । यश्च यं व्यभिचरति न
स तदर्थो ग्रहणमर्हति ॥ इतोऽपि न विक्लित्यादिव्यन्तिरिक्तः कर्तृव्यापारो धातोरर्थः
इत्याह—शब्दान्तरनिबन्धनत्वाच्च, प्रत्ययागमे हि प्रतीयमानः तदर्थ एव कर्तृव्यापार इति ॥
धातोः शब्दान्तरं प्रत्ययः स एव निबन्धनः कर्तृव्यापारः^८ प्रत्ययस्य यतः, अतोऽपि नासौ
धातोरर्थः । शब्दान्तरनिबन्धनत्वं कर्तृव्यापार(प्रत्यय)स्य कुतो ज्ञायत इत्यपेक्षायामुक्तम्—

१. तद्व्यापाराभ्युपगमात्—ख.

२. तदर्थस्यानर्थान्तर—क, घ ; तदर्थस्यार्था-
न्तर—ख.

३. अव्यभिचारादेतन्मात्रमेव—ङ.

४. तन्मात्रमेव तदर्थो—ख, ग, घ.

५. प्रत्ययागमेऽपि—क, ख.

६. मानतदर्थ—ङ.

७. कर्तृत्वविषययोः—च.

८. विशेषैकालम्बनत्वस्य—छ.

९. तादर्थ्यविरोधात्—च.

१०. निबन्धनं कर्तृव्यापारं—छ.

कर्तृव्यापारः । १ प्रधानानाञ्च प्रायेण प्रत्ययार्थत्वात्प्राधान्यादपि प्रत्ययार्थत्वम् ।

प्रत्ययागमे हीत्यादि । यदा ह्याख्यातप्रत्ययः प्रयुज्यते तदा २ कर्तृव्यापारः प्रतीयते, नान्यत्(दा) । अतोऽन्वयव्यतिरेकाभ्यां स तदर्थ एव भवितुमर्हतीत्यर्थः । इतोऽपि प्रत्ययार्थः कर्तृव्यापार इत्याह—प्रधानानां च प्रायेण प्रत्ययार्थत्वात्प्राधान्यादपि प्रत्ययार्थत्वमिति ॥ अयमर्थः—आख्यातप्रत्ययान्ते पदे कर्तृव्यापारः प्राधान्येन प्रतीयते, न पाचकादिष्विवोपसर्जनतया । प्राधान्याच्च प्रत्ययार्थत्वमवगम्यते, प्रधानानां प्रायेण प्रत्ययार्थत्वदर्शनात् । यथा पाचक-शब्दात्कर्तुः ३ प्राधान्यं प्रतीयते, यथा चौपगवशब्दादपत्यस्य । प्रायेणेत्यनेनैतद्वर्शयति—बाहुल्येन प्रत्ययार्थस्य प्राधान्यं दृश्यते, न पुनः सर्वत्र । क्वचित्तु प्रकृत्यर्थस्य प्राधान्यं प्रत्ययार्थस्य गुणभावो दृश्यते—यथा शुक्लतरः शुक्लतम इति ॥

नन्वेवन्तर्हि अनैकान्तिकं प्राधान्यं कथं कर्तृव्यापारस्य प्रत्ययार्थत्वनिश्चयहेतुत्वे-
नोच्यते? नैष दोषः । सम्भावनामात्रहेतुतामिप्रायेणास्योक्तत्वात् । आख्यातप्रत्ययस्यापि
भावनां प्रति व्यभिचाराद्धातोरेव तदभिधायकत्वमनुपपन्नमिति शङ्कते—अस्त्यादिषु व्यभिचार
इति चेदिति ॥ अस्ति भवतीत्यादिषु प्रत्ययस्य भावनां प्रति व्यभिचारः । नहि तत्र भावना
सम्भवति, भाव्याभावात् । न च भाव्यानपेक्षिणी भावना सम्भवति । ५ नाप्यस्त्यर्थस्य कर्तैव
भाव्य इत्युपपद्यते, कर्तृकर्मणोर्भेदप्रसिद्धेः । अतो व्यभिचारान्न प्रत्ययस्य भावनार्थत्वं सम्भ-

१. यथोक्तम्—

‘तथा क्रमवतोर्नित्यं प्रकृतिप्रत्ययान्वयोः ।

प्रत्ययश्रुतिवेलायां भावनात्मा प्रतीयते ॥’

—अयं ग्रन्थः ‘कर्तृव्यापारः’ ‘प्रधानानां

च प्रायेण’ इत्यनयोर्मध्ये दृश्यते—ग, घ,

ङ ; मातृकासु. भट्टोम्बेकटीकायां अस-

ग्रन्थस्यावतारिका एवं दृश्यते—‘अत्र

वृद्धाबुमतिं दर्शयति—यथोक्तमिति ।’

२. तदा पूर्वापरः प्रतीयते—च.

३. प्राधान्यात्—छ.

४. ‘एतत्’ नास्ति—छ.

५. न चास्त्यर्थस्य—छ.

अस्त्यादिषु व्यभिचार इति चेत्—न, ^१वस्तुतोऽ^२भावेऽपि शब्दात्प्रतीतेः । अन्यथा ^३अस्ति ^४भावः सत्तेत्यभेदात् ।

वतीति । एवमाशङ्कां दर्शयित्वा निराकरोति—न, वस्तुतोऽभावेऽपि शब्दात्प्रतीतेः, अन्यथा अस्ति भावः सत्तेत्यभेदादिति ॥ नेति प्रदर्शितां प्रत्ययस्य भावनाव्यभिचाराशङ्कां प्रतिषेधति । कथम् ? अस्त्येत्यादौ यद्यपि वस्तुतो भाव्याभावात् भावना न^५ सम्भवति, तथापि सा शब्दात्प्रतीयते । अतश्शब्दवाच्या सा तत्रापि विद्यत एव । एतदुक्तं भवति—विषयान्तरपरिदृष्टाया भावनाया इहाध्यारोप इति । एवमस्य ग्रन्थस्यार्थः श्रुत्या प्रतिभाति । स चायमनुपपन्न इति कैश्चिद्वाख्यातृभिः परित्यक्तः, अन्यश्च ^६परिगृहीतः ।

का पुनरस्यानुपपत्तिः ? उच्यते । अध्यारोपकल्पना हि प्रतीतिवैलक्षण्ये सति सम्भवति । नचेह तदस्ति इति । कः पुनरस्यार्थः ? उच्यते । अस्त्यादिष्वप्यस्त्येव भावना । भाव्यन्तु कर्तुर्घटादेः सत्तैव प्रकृत्यर्थभूता ।

ननु किं सत्तासामान्यस्य भाव्यत्वम् ? किं वा विशेषस्य ? न तावत्सामान्यस्य ; नित्यत्वात् । विशेषस्य चेत्तर्हि घटस्यैव भाव्यत्वमुक्तं स्यात् । तस्य चास्त्यर्थे कर्तृत्वान्न कर्मत्वं सम्भवति । उच्यते—पूर्वावस्थो घटः कर्ता उत्तरावस्थो घटस्तु कर्मेति न विरोधः इति ॥

अत्र वयं पृच्छामः—भवत्वेतत्कादाचित्केषु घटादिषु । नित्येष्वकाशादिषु कथम् ? इति । तत्रापि ह्यस्त्यादि प्रयुज्यते आकाशमस्ति भवतीति । नहि तत्र भाव्यं

१. वस्तुतोऽपि—ख.

५. 'न' नास्ति—च.

२. भावेऽपि शब्दात्तथाप्रतीतेः—ख.

६. अन्यश्च गृहीतः—छ.

३. अस्ति—छ.

७. नित्येष्वकारादिषु—छ.

४. भावसन्तत्यभेदात्—क ; भावसत्ताभेदात्—

ख ; भावः सत्तेत्यभेदः प्रसज्येत—ग, घ ;

त्यभेदादभेदः—छ.

किञ्चिन्निरूपयितुं शक्यते । अतस्तत्र भावना नास्तीति कथमाख्यातप्रयोग इति । तत्र समारोपेण प्रयोग इति चेत्—घटो भवतीत्यत्रापि तथा स्यात् । नहि तत्रात्र च प्रतीतिर्भिद्यते । अपि च करोत्यर्थो हि भावना । नचेह करोतिः प्रयुज्यमानो दृश्यते । नहि किं करोतीति पृष्टे अस्ति भवतीति वा प्रतिवचनं दृश्यते । यदि पुनरस्यादिः करोतिना एकार्थः स्यात् तदा तत्समानाधिकरणोऽपि कदाचित्प्रयुज्येत पचत्यादिवत् । न च प्रयुज्यते । तस्मान्ना-
स्यादिषु भावना । किन्तुन्यत्र परिःदृष्टैवोपचर्यते । नचैतावता सिद्धकर्तृविषयस्याप्याख्यात-
प्रत्ययस्यौपचारिकत्वम्, तत्र करोत्यर्थस्य प्रतीयमानत्वात् ।

एवमस्य ग्रन्थस्य कथञ्चिद्यथाश्रुतेऽप्यर्थे ग्रहणयोग्ये सत्यपि कैश्चिद्(यम)न्यथा व्या-
ख्यातः—वस्तुतः तदभा(तोऽभा)वेऽपीति । कर्तृव्यतिरिक्तभाव्याया भावनाया अभावेऽपि शब्दा-
त्प्रतीतेरस्त्यर्थस्य कर्तुर्घटादेरेवावस्थान्तरविशिष्टस्य भाव्यत्वसम्भवाच्छब्दाद्भावनाप्रतीतिरुप-
पद्यत इत्यर्थः । कथन्तर्ह्यत्र करोतेः प्रयोगाभावः ? स्थूलदृष्ट्येह २ भावनाप्रतीतेरभावात् ।
अत्र हि कर्तव्या(र्तृव्य)तिरिक्तभाव्याभावेऽपि कर्तुरेव घटादेः केनचिदवस्थाभेदेन भाव्यत्व-
सम्भावनानिरूपणद्वारेण भावना सूक्ष्मदृष्ट्या दृश्यते । न पुनः सिद्धकर्तृविषय इव स्थूलदृष्ट्या ।
स्थूलदृष्ट्यनुसारी हि प्रायेण लौकिकः^३ शब्दव्यवहारः । तस्माद्धटोऽस्तीत्ययमर्थः—४घटः
स्वात्मानं सन्तं करोतीति । कथं ५तर्ह्यसतो घटस्य कर्तृत्वम् ? अत्यन्तासत्त्वानभ्युपगमात् ।
कथन्तर्हि नित्येष्वाकाशादिष्वस्त्यादेः प्रयोगः ? उच्यते । तत्र भावनाया अभावनिश्चयाद्भा-
व्यत्वमात्रविवक्षया प्रयोगः । प्रकृतेश्च केवलप्रयोगानर्हत्वात्प्रत्ययस्य प्रयोगः । अपि च योऽपि
भावनाया अपि धातुनैवाभिधानं मन्यते, तस्याप्येष दोषस्समान एव । अस्त्यादौ धातोरपि
प्रत्ययस्येव भावनां प्रति व्यभिचारात् (इति) अलमतिवाचालतया ॥

१. दृष्टैवोप—छ.

४. घटस्यात्मनः सन्तं—च.

२. भावनाप्रतीत्याभावात्—छ.

५. तर्ह्यसते कर्तृत्वं—च.

३. लौकिकशब्द—छ.

PRAMEYAMĀLĀ

BY

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यच्चोक्तं—विशेषणान्तरविशिष्टे वस्तुनि विशेषणान्तरान्वयाद्विशेषणानामन्योन्यसम-
वायप्रसङ्ग इति; तदसत् ; विकल्पासहत्वात् । किं पदार्थस्मरणदशायामन्योन्यसमवायप्रसङ्गः ?
अथ परामर्शदशायाम् ? आहोस्विद्वाक्यार्थाभिधानदशायाम् ? न तावत्प्रथमः कल्पः ।
स्मरणदशायां पृथक् पृथक् पदार्थस्मरणेन मिथोऽन्वयप्रसङ्गाभावात् । नापि द्वितीयः ;
एकस्मिन्वस्तुन्यविरुद्धानेकविशेषणसमवायस्य प्रत्यक्षावगतस्य यथावस्थितवस्तुपरामर्शद-
शायां परामृश्यमानत्वात् । नापि तृतीयः ; वाक्यार्थाभिधानदशायां सर्वैः पदैर्युगपद-
नेकविशेषणविशिष्टैकवस्तुविषयैकज्ञानजननेन क्रमाभिधानप्रयुक्तान्योन्यसमवायप्रसङ्गा-
भावात् । यथैव द्वे चक्षुषी जातिगुणाद्यनेकविशेषणविशिष्टैकवस्तुविषयामेकां धियं युगप-
ज्जनयतः, तथैवानेकानि पदानि युगपदेव तत्तद्विशेषणविशिष्टैकवस्तुविषयैकज्ञानजनकानि
भवन्ति ; यथादृष्टविषयत्वात्पदानां व्युत्पत्तेः । क्रमेणाभिधानानभ्युपगमे कथमुद्देश्योपादेय-
विभागसिद्धिरिति चेत् ; उच्यते; ज्ञाताज्ञातविभागो ह्युद्देश्योपादेयविभागः; सच युगपत्प्रतिपा-
दनेऽपि नापैति । एकेन वाक्येनैकस्य वस्तुनोऽनेकविशेषणान्वये युगपत्प्रतिपाद्ये तत्रैकविशेष-
णान्वयः प्रागेव ज्ञातः, विशेषणान्तरान्वयस्त्वज्ञात इति ज्ञाताज्ञातविभागपरामर्शः परामर्श-
दशायां हि संभवत्येव ।

यदप्युक्तं—विशिष्टैक्यप्रतिपादने विशेष्यैक्यवद्विशेषणैक्यं प्रसज्यत इति ;
तदपि न साधीयः ; भवत्पक्षेऽप्यसत्यत्वादिप्रतियोगिरूपविशेषणैक्यप्रसङ्गात् । प्राति-
पदिकानां तत्तत्प्रतियोगिविशिष्टस्वरूपपरत्वेऽपि समानविभक्तेः प्रातिपदिकार्थैकदे-
शभूतविशेष्यमात्रैक्यपरत्वव्युत्पत्त्या न विशेषणैक्यं प्रसज्यत इति चेत् ; तदस्मत्प-
क्षेऽपि समानम् । आवयोर्विशेषस्तु प्रागेवोक्तः । ‘कार्ण्यपीतिमरक्तिमादिव्यावृत्तं
शौक्यम्’ इत्यादिषु प्रतियोगिभेदस्य तत्तद्भाववृत्तस्वरूपस्य च शब्दोपात्तत्वाच्च लक्षणा-
प्रसङ्गः, सत्यादिवाक्येषु न तथेति विशेषः । एवं तावच्छौक्यादिदृष्टान्तवाक्यात् सदादि-
दार्ष्टान्तिकवाक्यस्य शब्दद्वारकं वैषम्यमुक्तम् । अर्थद्वारकं च वैषम्यं द्रष्टव्यम् । कथ-
मिति चेत् ; इत्थम् ; शौक्यादेः कस्यचिद्द्रव्यस्य द्रव्यान्तराद्भाववर्तकतया धर्मान्तरानपेक्ष-
त्वम् । ब्रह्मणस्तु न तथात्वमिति स्वरूपातिरिक्तव्यावर्तकधर्मापेक्षा अस्त्येव । किञ्च
शौक्यादिस्वरूपस्फुरणे हि न कार्ण्यव्याध्यासप्रसङ्गः । अतस्तत्र स्वरूपमेव सकले-

तरव्यावृत्तिरिति युक्तमभ्युपगन्तुम् । ब्रह्मस्वरूपस्फुरणेऽपि तदितराध्यासाभ्युपगमाद्रजता-
दिव्यावर्तकाधिष्ठानस्वरूपातिरिक्तशुक्तिवादिब्रह्मसर्वाध्यासाधिष्ठानब्रह्मस्वरूपातिरिक्तसकलेतर-
व्यावृत्तिरूपधर्मोऽवस्थाभ्युपगन्तव्यः ।

यच्चोक्तं—विशेषणभेदे विशेष्यभेदप्रसङ्ग इति; तदयुक्तम् ; विशेषणभेदमात्रस्य
विशेष्यभेदकत्वाभावात् । ‘देवदत्तश्श्यामो युवा’ इत्यादिषु विशेषणभेदेऽपि विशेष्यैक्यदर्शनात् ।
तत्र विशेषणभेदस्य स्वतः प्राप्तं विशेष्यभेदकत्वं प्रत्यक्षेणापोद्यत इति चेन्न ; धर्मिवाचिपदै-
क्यात् समानविभक्तिनिर्देशाच्चैक्यप्रतीतिः । ‘खण्डो मुण्डः पूर्णशृङ्गो गौः’ इत्यत्र धर्मिवाचिप-
दैक्ये समानविभक्तिनिर्देशे सत्यपि विशेषणभेदाद्विशेष्यभेदः प्रतीयत इति चेत्, नैवम् ;
यतः स्वतः प्राप्तं तयोर्विशेष्यैक्यप्रतिपादकत्वं प्रत्यक्षेण तत्रापोदितम् । परोक्षेऽपि खण्ड-
त्वादिविशेषणभेदे विशेष्यभेदप्रतीतिर्दृश्यत इति चेत्, परोक्षेऽपि इयामत्वादिविशेषण-
भेदेऽपि विशेष्यैक्यप्रतीतिर्दृश्यत इति समानश्चर्चः । को निर्णायक इति चेत्, यज्जातीय-
विशेषणानां नियमेन भिन्नाश्रयत्वं प्रत्यक्षेण दृष्टं, तज्जातीयविशेषणानां परोक्षेऽपि विशेष्य-
भेदापादकत्वम् ; यथा खण्डत्वादीनाम् । यज्जातीयविशेषणानां तु भिन्नाश्रयत्वनियमो न
दृष्टः, तज्जातीयविशेषणानां धर्मिवाचिपदैक्ये समानविभक्तिनिर्देशे च एकविशेष्यसमवे-
तत्वं युक्तम् ; यथा नीलत्वादीनामिति ।

यच्चोक्तं—वाच्ये प्रधानांशस्य प्रतिपादनान्न लक्षणेति ; तदप्यसत् ; विशेषणद्वारेण
विशेष्यपर्यवसायिनश्शब्दस्य द्वारानभिधाने द्वार्यभिधानासिद्धेः । अलाक्षणिकत्वेऽपि
विशिष्टाभिधानस्वरसस्य शब्दस्य विशेष्यमात्रपरत्वे स्वारस्यहानिरवर्जनीया । सा च
विरोधाभावे न युक्ता ।

यच्च ‘विषं भुङ्क्व’ इत्यादिषु सर्वपदलक्षणा दृष्टेति ; तच्च तत्र विधिप्रत्ययांशस्य
मुख्यत्वादयुक्तम् । तत्र विधिप्रत्ययव्यतिरिक्तशब्दलक्षणा च मुख्यार्थत्वे प्रमाणान्तरविरो-
धात्स्वीक्रियते । प्रस्तुते तु विरोधाभावान्न सा युक्ता ।

यच्चोक्तं—समानविभक्त्यवगतैक्यविरोधाद्विशेषणपरित्याग इति ; तदप्ययुक्तम् ;
प्रातिपदिकावगतविशेषणान्वयविरोधादैक्यपरित्यागापत्तेः । तथाहि—यदि समानविभक्त्य-

न्वयावगतत्वादैक्यं न हातुं शक्यते, तर्हि प्रातिपदिकान्वयव्यतिरेकावसितविशेषणान्वयः कथमिव हातुं शक्यते ? यथा ' नीलमुत्पलम् , इत्यादौ । तत्र विशेषणान्वयस्तु प्रत्यक्षसिद्धत्वादङ्गीक्रियत इति चेत् , तत्रैक्यप्रतीतिरपि तथैवेति किमिति न स्यात् ? समानविभक्तिनिर्देशे परोक्षेऽप्यैक्यप्रतीतिर्दृश्यत इति चेत् , तथैव प्रातिपदिकप्रयोगे परोक्षेऽपि विशेषणान्वयप्रतीतिर्दृश्यत एव । तस्मादैक्यप्रतीतिशब्दी चेद्विशिष्टप्रतीतिरपि शाब्देवेति न कश्चिद्विशेषोऽन्यत्राभिनिवेशात् । तस्मात्सत्यादिवाक्यं सत्यत्वादिविशिष्टमेव ब्रह्म प्रतिपादयतीति सिद्धम् ॥

॥ इति वत्सकुलतिलकश्रीवरदगुरुविरचितायां श्रीभाष्यप्रमेयमालायां
अखण्डवाक्यार्थभङ्गः ॥

॥ अथ त्रिविधपरिच्छेदराहित्यम् ॥

ननु ' सत्यं ज्ञानमनन्तं ब्रह्म ' इत्यत्र अनन्तपदेन देशकालवस्तुपरिच्छेदराहित्यं विवक्षितम् । तत्र वस्त्वन्तरसद्भावो वस्तुपरिच्छेद इति ब्रह्मव्यतिरिक्तं वस्त्वभ्युपगच्छतो भेदवादिनो न ब्रह्मानन्त्यसिद्धिः । अद्वैतवादिनस्तु ब्रह्मव्यतिरिक्तवस्त्वन्तराभावात्तस्यैव ब्रह्मानन्त्यसिद्धिरिति चेत् ; तत्र ; भवतोऽपि ब्रह्मव्यतिरेकेणाविद्यामभ्युपगच्छतो ब्रह्मानन्त्यासिद्धेः । अविद्याया मिथ्यारूपत्वाच्च दोष इति मा वोचः ; मिथ्यारूपत्वेऽपि तथाविधयोस्तस्या ब्रह्मव्यतिरेकस्यावश्याश्रयणीयत्वात् । इतरथा ब्रह्मणोऽविद्यात्वमविद्यायाश्च ब्रह्मत्वं वा स्यात् । न ह्यनिर्वचनीयजडरूपाया अविद्यायास्सच्चिद्रूपस्य ब्रह्मणश्च तमः-प्रकाशयोरिवेतेतरभावस्सम्भवति । तदुक्तं भवदीय एव भाष्ये ' युष्मदस्मत्प्रत्ययगोचरयोर्विषयविषयिणोस्तमःप्रकाशयोरिव विरुद्धस्वभावयोरितरेतरभावानुपपत्तौ सत्याम् ' इति ।

अथ मतम्—सजातीयवस्त्वन्तरसद्भावो वस्तुपरिच्छेद इति ब्रह्मणश्चाविद्यासजातीय-
त्वाभावादपरिच्छेद इति । यद्येवं, भेदवादिनोऽपि ब्रह्मव्यतिरिक्तस्य कृत्स्नस्य वस्तुन-
स्तद्धर्मत्वाद्ब्रह्मणस्तद्धर्मितया तद्विजातीयत्वादपरिच्छेदसिद्धिरिति समानश्चर्चः । अथ ब्रह्मण-
स्तद्व्यतिरिक्तस्य च धर्मधर्मिभावेन विजातीयत्वेऽपि सत्यत्वप्रमेयत्वादिना आकारान्तरेण
सजातीयत्वमस्त्येवेति नापरिच्छेदसिद्धिरिति मन्यसे, एवं तर्हि जडत्वस्वयम्प्रकाशत्वादिना
विजातीयत्वेऽप्यनादित्वभासमानत्वादिना आकारान्तरेण सजातीयत्वमविद्याब्रह्मणोरस्तीति
तुल्यं चोद्यम् । एतच्चोद्यपरिजिहीर्षया सर्वथा सजातीयवस्त्वन्तरसद्भावो वस्तुपरिच्छेद इति
वचनं भेदपक्षेऽपि समानम् ।

किञ्च यथा देशकालपरिच्छेदौ स्वव्यतिरिक्तदेशकालसद्भाव इति नाङ्गीक्रियते, तथा
वस्तुपरिच्छेदोऽपि स्वव्यतिरिक्तवस्तुसद्भाव इति न युज्यते वक्तुम् । देशकालपरिच्छेद-
योरपि तथात्वमभ्युपगम्यत इति चेत्, तथा सति घटादीनामपि देशकालपरिच्छेदौ न
स्याताम् । तेषां काल्पनिकदेशकालावच्छेदो विद्यत इति चेत्, तर्हि ब्रह्मणोऽपि तदवच्छेद-
स्स्यात् ; काल्पनिकदेशकालयोर्विद्यमानत्वात् । वास्तवदेशकालावच्छेदो न घटादीनामपीति
तेभ्यो ब्रह्मणो न कश्चिद्विशेषोऽन्यत्राभिनिवेशात् । किञ्च ब्रह्मव्यतिरिक्तस्य तद्गुणविभूतिभू-
तस्य वस्त्वन्तरस्यानन्यथासिद्धानेकप्रमाणसिद्धस्य अन्यथासिद्धानन्तपदमात्रेण न बाधशङ्काव-
काशः । न ह्येकपदस्वारस्यानुरोधाय सर्वशब्दस्वारस्यभङ्गो युक्तः । तस्मान्न वस्त्वन्तरस-
द्भावो वस्तुपरिच्छेद इति वक्तुं युक्तमिति ।

एवं स्थिते वस्त्वन्तरप्रतिघातो वस्तुपरिच्छेद इति केचित् । यथा सूर्यालोकादेः
स्वतस्सर्वप्रदेशप्रवेशार्हस्यापि कुड्यादिभिः प्रतिहतिर्दृश्यते । देशपरिच्छेदस्तु स्वत-
स्सर्वप्रदेशप्रवेशानर्हता ; यथा घटादेरिति । एवंविधो वस्तुपरिच्छेदो ब्रह्मणो नास्तीति
ब्रह्मणोऽनन्तत्वसिद्धिरिति ।

अन्ये त्वाहुराचार्याः—वस्तुपरिच्छेदो वस्तुनः परिमाणमिति । परिमितस्य हि वस्तुनः
परिमितदेशवृत्तित्वम् । अवच्छेदस्य हि वस्तुनः परिमितत्वं वस्तुपरिच्छेदः ; अवच्छेदकस्य
देशस्य परिमितत्वं देशपरिच्छेद इति नानयोरैक्यम् । किन्तु वस्तुपरिच्छेदो देशपरिच्छे-

दस्य हेतुरिति हेतुहेतुमद्भावमात्रमेव ; यथा घटादेः परिमितत्वेन तदवच्छेदकस्य देशस्य परिमितत्वम् । अतो वस्तुपरिच्छेदो वस्तुनः परिमाणम् । तदभावाच्च ब्रह्मणोऽनन्तत्व-
सिद्धिरिति ।

त्रयन्तनिष्णातास्त्वाचक्षते—देशविशेषयोगितया निषेधो देशपरिच्छेदः ; यथा इदमिह न भवतीति । कालविशेषयोगितया निषेधः कालपरिच्छेदः ; यथा इदमि-
दानीन् न भवतीति । वस्तुविशेषात्मतया निषेधो वस्तुपरिच्छेदः ; यथा इदमिदन्न
भवतीति । नित्यस्य विभोस्सर्ववस्त्वात्मकस्य ब्रह्मणस्तदभावादानन्त्यसिद्धिरिति । तथाहि—
पुरुषसूक्तनारायणानुवाकादिषु तावत्परस्य ब्रह्मणः ‘ स भूमिं विश्वतो वृत्वा ’ ‘ सर्वं व्याप्य
नारायणस्स्थितः ’ ‘ येन सर्वमिदं प्रोतम् ’ ‘ विश्वतः परमे नित्यम् ’ ‘ नित्यं विभुं सर्वगतम् ’
इति सर्वदेशकालपरिच्छेदाभावमुक्त्वा, ‘ पुरुष एवेदं सर्वम् ’ ‘ यद्भूतं यच्च भव्यम् ’ ‘ विश्व-
मेवेदं पुरुषः ’ ‘ स ब्रह्मा स शिवः ’ ‘ स वै सर्वमिदं जगत् स च भूतं स भव्यम् ’ इति
सर्ववस्त्वात्मकत्वेन वस्तुपरिच्छेदाभाव उक्तः । ‘ पुरुष एवेदं सर्वम् ’ ‘ यद्भूतं यच्च भव्यम् ’
‘ स वै सर्वमिदं जगत् स च भूतं स भव्यम् ’ इति कालत्रयवर्तिसर्ववस्त्वात्मकत्वाभिधानेन
अर्थात्कालपरिच्छेदाभावश्च प्रतिपादितः । तथा भगवता पराशरेणापि ‘ अपक्षयविना-
शाभ्यां परिणामर्द्धिजन्मभिः ’ ‘ सर्वत्रासौ ’ इति श्लोकद्वयेन कालतो देशतश्च परिच्छेदा-
भावमभिधाय, ‘ तदेव सर्वमेवैतत् ’ इति सर्ववस्त्वात्मकतया वस्तुपरिच्छेदाभावः प्रति-
पादितः ।

यत्तु—वस्त्वन्तरप्रतिहतिः वस्तुनः परिमाणं वा वस्तुपरिच्छेद इति, तत् तयोर्दे-
शपरिच्छेदान्तर्भावेन पृथगभिधानन्न प्रयोजनवदित्यनपेक्षितोक्तैर्वस्त्वन्तरात्मतया निषेध-
रूपस्य परिच्छेदस्यानभिधानेनापेक्षितार्थावचनादारम्भणाधिकरणभाष्यविरोधाच्च त्रयन्तविद्वा-
न बहुमन्यन्ते । आरम्भणाधिकरणे हि देशकालपरिच्छेदयोः प्रतिपदार्थं तारतम्यं वस्तु-
परिच्छेदस्य चैकरूप्यं भगवता भाष्यकारेणाभ्यधायि । वस्त्वन्तरात्मतया निषेधो वस्तु-
परिच्छेद इति च तत्रैवोक्तं ‘ भेदवादिनस्तु ’ इत्यादिना । अतो वस्त्वन्तरात्मतया निषेधो
वस्तुपरिच्छेदः ; तदभावाद्ब्रह्मणोऽनन्तत्वम् । ‘ अनञ्जन्यः ’ ‘ अन्योऽन्तर आत्मा ’

इत्यादिषु स्वरूपविवेकपक्षेषु वाक्येषु वस्त्वन्तरात्मतया निषेधो दृश्यत इति चेत् ; अभि-
प्रायापरिज्ञानात् । एतदुक्तं भवति—वस्त्वन्तरसामानाधिकरण्यायोग्यत्वं वस्तुपरिच्छेदः ।
ब्रह्मणस्तु सर्ववस्तुशरीरकत्वात्सर्ववस्तुसामानाधिकरण्ययोग्यत्वेन तदभाव इति ।

॥ इति वत्सकुलतिलकश्रीवरदगुरुविरचितायां श्रीभाष्यप्रमेयमालायां
त्रिविधपरिच्छेदराहित्यम् ॥

॥ अथ सर्वशरीरत्वम् ॥

ननु सर्वस्य ब्रह्मशरीरत्वञ्च सम्भवति ; तल्लक्षणासिद्धेरिति चेत्, न ; तदसिद्धे-
रेवासिद्धेः । तथाहि भगवान् भाष्यकारः—‘ चेष्टेन्द्रियार्थाश्रयश्शरीरम् ’ इति न्यायसू-
त्रोक्तं शरीरलक्षणत्रयं लौकिकवैदिकसकलशरीरव्यापित्वाभावेन जीवशरीरविशेषमात्र-
लक्षणविवक्षयोक्तं मत्वा सकलशरीरव्याप्तं लक्षणान्तरत्रयं दर्शयति ‘ यस्य चेतनस्य ’
इत्यादिना । यस्य चेतनस्य यद्द्वयं सर्वात्मना स्वार्थे नियन्तुं शक्यं, तत्तस्य शरीरम् ;
यस्य चेतनस्य यद्द्वयं सर्वात्मना स्वार्थे धारयितुं शक्यं, तत्तस्य शरीरम् ; यस्य चेतनस्य
यद्द्वयं शेषतैकस्वरूपं, तत्तस्य शरीरमिति त्रीणि शरीरलक्षणानि अन्योन्यनिरपेक्षाणि
दृश्यन्ते । लोकवेदयोर्हि शरीरशब्दप्रयोगो यद्यद्वस्तुविषयो दृश्यते, तत्र सर्वत्रानुगतमेव
शरीरलक्षणं वक्तव्यम् । लोके तावदत्यन्तविलक्षणाकारेषु कृमिकीटपतङ्गनरपशुप्रभृति-
पञ्चगौणः प्रयुज्यमानश्शरीरशब्दो दृश्यते । श्रुतिस्मृतीतिहासपुराणेषु परमात्मव्यतिरिक्तस्य
कृत्स्नस्य चिदचिद्वस्तुनः परमात्मानं प्रति शरीरत्वं ‘ यस्य पृथिवी शरीरम् ’ ‘ यस्यात्मा शरी-
रम् ’ ‘ सोऽभिध्याय शरीरात्स्वात् ’ ‘ जगत्सर्वं शरीरं ते ’ ‘ तानि सर्वाणि तद्वपुः ’
इत्यादिभिर्व्यपदिश्यते । चेष्टाश्रयत्वादीनामेव शरीरलक्षणत्वस्वीकारेण जगद्ब्रह्मणोश्शरीर-
शरीरिभावप्रतिपादकानामेषां बहूनां वचसामौपचारिकत्वाङ्गीकारे जीवशरीरेष्वपि द्विपात्त्व-
द्विजन्मत्वसास्नादिमत्त्वादीनां कतिपयशरीरवर्तिनामन्यतमस्यैव शरीरलक्षणत्वस्वीकारेण

तल्लक्षणरहितजीवशरीरान्तरेषु लोकवेदयोश्शरीरशब्दप्रयोगस्यौपचारिकत्वेन निर्वाहः प्रसज्येत । तदप्रसक्तिश्च सर्वत्र शरीरशब्दप्रयोगसाम्यात् । तदत्रापि समानमन्यत्राभिनिवेशात् । यस्य इति षष्ठ्यन्तेन प्रतिसम्बन्धिवाचिना पदेन शरीरत्वं न घटत्वादिवृद्धप्रतियोगिकम् ; किन्तु पुत्रत्वादिवत्प्रतियोगिकमिति दर्शयति । श्रुतिषु 'तस्माद्वा एतस्मादात्मनः' इत्यादिषु केवलात्मशब्दप्रयोगोऽपि तद्व्यतिरिक्तस्य वस्तुनस्तच्छरीरत्वं विवक्षितमिति ज्ञापनाय । 'चेतनस्य' इति पदं 'धारयितुं शक्यम्', 'शेषतैकस्वरूपम्' इति लक्षणद्वये प्रभाप्रभावतोः शरीरशरीरिभावव्युदासार्थम् । लक्षणत्रयेऽप्यात्मधर्मभूतज्ञानस्य शरीरत्वनिवृत्त्यर्थश्च । चेतनस्य—चैतन्यविशिष्टस्येत्यर्थः । यदिति धर्मिनिर्देशः । द्रव्यशब्देन जीवगतक्रियादीनां शरीरत्वं व्युदस्यते । सर्वात्मनेति कादाचित्कनियाम्यत्वादिमतां गर्भदासवस्त्राभरणगृहक्षेत्रादीनां शरीरत्वं निवर्त्यते । सर्वात्मना—यावद्द्रव्यभावीत्यर्थः । अत एव सृष्ट्यपवर्गादिभिरापोद्वापवशादव्यवस्थितांशविशेषसम्बन्धानियतसमुदायाकारक्षेत्रज्ञसमष्टिधार्यप्रकृतौ द्वितीयलक्षणस्यातिव्याप्तिपरिहारश्च । स्वार्थ इति तत्तच्छरीराविषयेषु कार्येषु तस्य तस्य शरीरस्य नियाम्यत्वाभावेन लक्षणस्यासम्भावना निराक्रियते । स्वार्थे—स्वविषये, तत्तच्छरीरासाधारणे कार्ये इत्यर्थः । नियन्तुं धारयितुं शेषभूतमिति पदैः अनियाम्याधार्याशेषभूतेषु परमात्मादिष्वतिव्याप्तिनिषिध्यते । शक्यमिति रुग्णादिशरीरेषु नियमनाद्यदर्शनेन लक्षणस्याव्याप्तिः परिह्रियते । तेषु हि तच्छरीरिर्कर्तृकनियमनादिकार्याभावेऽपि तच्छक्तिविषयत्वमस्त्येव । कार्यानुदयस्तु रोगादिप्रतिबन्धात् । यथा अग्न्यादेशशक्तिप्रतिबन्धाद्वाहादिकार्यानुदयः । शक्यं—शक्तिविषयीभूतमित्यर्थः । तच्छेषतैकस्वरूपमिति भिन्नवाक्यतया निर्देशस्तु स्वार्थे शक्यमिति पूर्ववाक्यस्थपदद्वयानन्वयात् । वेदान्तिनस्सत्कार्यवादिनया हस्ताद्यवयवानां समुदितानामेवावयवित्वेन शरीरत्वान्न तेष्वव्याप्तिश्शङ्कनीया । नियाम्यत्वादिकं हि समुदितानामेव दृश्यते ; न विभक्तानाम् । एवमिन्द्रियेष्वपि नातिव्याप्तिः । मृतशरीरस्य चेतनवियोगक्षण एव विशरितुमारभ्य क्षणान्तरे विशीर्णत्वेनाशरीरत्वान्नाव्याप्तिः । तत्र शरीरशब्दव्यवहारस्तु पूर्वं शरीरतया क्लृप्तसङ्घातैकदेशगोचरत्वेनौपचारिकः । चेष्टाश्रयत्वादिलक्षणान्तरवादिनोऽपि समानमेतत् । कदाचिच्चेष्टायोगव्यवच्छेद एव लक्षणतया विवक्षित इति चेत्, तथाप्यन्तर्यामिब्राह्मणद्वयसुबालोपनिषत्प्रभृतिषूपनिषद्भागेषु स्मृतोति-

हासपुराणेषु च पृथिव्याद्यक्षरतमःपर्यन्तबह्वर्थविषयतया बहुशः प्रयुज्यमानस्य शरीरशब्दस्य लाक्षणिकत्वकरुपनाद्वरं मृतशरीरमात्रविषयतया प्रयुज्यमानस्य शरीरशब्दस्य लाक्षणिकत्वकरुपनम् । किञ्च मृतशरीरस्यापि परमात्मापेक्षया शरीरत्वमस्त्येव । जीवात्मापेक्षया शरीरत्वं लाक्षणिकम् । तस्मादिदमेव समीचीनं शरीरलक्षणत्रयम् । न्यायसूत्रे तु जीवशरीरविशेषगोचरं लक्षणमुक्तमिति बोद्धव्यम् ।

यथा न्यायविदामेव प्रमासाधनप्रमाणत्ववचनं जीवगतप्रमासम्बन्धिप्रमाणमात्रलक्षणविवक्षयोक्तम् ; न पुनर्जीवपरमात्मगतप्रमासम्बन्धिप्रमाणलक्षणविवक्षयेति व्याख्यातं तज्ज्ञैः । अतस्सूक्तं 'यस्य' इत्यादिना भाष्येण लक्षणत्रयम् । तत्र तृतीयलक्षणविवेकार्थं शेषलक्षणं व्याक्रियते । 'शेषः परार्थत्वात्' इति शेषशेषिभावपरं जैमिनीयं सूत्रं परैरन्यथाव्याख्यातं मत्वा यथावद्याचष्टे—'परगतातिशयाधानेच्छयोपादेयत्वमेव यस्य स्वरूपं स शेषः परश्शेषी' इति । अस्यार्थः—अन्यस्य प्रयोजनमेव यस्य प्रयोजनं स शेषः ; अन्यश्शेषीति । अत्र परशब्दोऽन्यपर्यायः । परातिशयशब्दयोः कर्मधारयसमासशङ्कामात्रनिवृत्त्यर्थं गतेतिपदम् । अतिशयः—विशेषः, किञ्चित्कार इति यावत् । 'नाकिञ्चित्कुर्वतश्शेषत्वम्' इति हि मीमांसकानां प्रसिद्धिः ।

अनेनातिशयशब्देन स्वरूपाननुकूलविनाशाधायायकानां शेषत्वशङ्काव्युदासः । फलविनाश्यस्य हि कर्मणः स्वगतविनाशायायकफलं प्रति न शेषित्वम् । आधानशब्देनातिशयं प्रत्यनधिकरणतया हेतुत्वं विवक्ष्यते । अनेन परगतमतिशयं स्वस्मिन्नापादयितुमिच्छयोपादेयस्य शेषिणः शेषत्वशङ्कानिवृत्तिः । इच्छयेति परगतातिशयस्येच्छाविषयतया प्रयोजनत्वमुच्यते । तच्च 'परार्थत्वात्' इत्यर्थशब्देनोक्तम् । अर्थ्यत इत्यर्थः, इष्यत इति यावत् । अनेन स्वस्मिन्नप्यतिशयाधायके भृत्यादौ लक्षणस्यासम्भवशङ्कानिवृत्तिः । उपादेयत्वं—स्वोकार्यत्वम् । इच्छास्वीकारौ च शेषिणः शेषस्य वा अन्यस्य वा यथासम्भवम् । यत्र शेषी वा शेषो वा चेतनः, तत्र तयोरन्यतरस्येच्छास्वीकारौ । यत्र तूभयमचेतनं प्रभाप्रभावधागतदङ्गादिकं, तत्रोभयव्यतिरिक्तस्य चेतनस्यैवेति । परस्मिन्नप्यतिशयाधायकस्य स्वामिनः परं प्रति शेषत्वव्युदासः । स्वरूपमिति स्वरूपातिरिक्तगुणाद्युपा-

धिनिरासः । स्वरूपं—स्वरूपप्रयुक्तम् ; न गुणादिधर्मप्रयुक्तमित्यर्थः । एवञ्च सर्वशेषित्वं सर्वशरीरकत्वञ्चेश्वरस्य सिद्धम् ।

॥ इति वत्सकुलतिलकश्रीवरदगुरुविरचितायां श्रीभाष्यप्रमेयमालायां
सर्वशरीरत्वम् ॥

॥ अथ अपशूदनयादिविरोधोपपादनम् ॥

एवञ्च ब्रह्मणस्सर्वशरीरकत्वात् शरीरवाचिशब्दानाञ्च शरीरिपर्यन्तत्वात्सर्ववस्तु-
सामानाधिकरण्यम् ; न पुनस्सर्वतादात्म्येन ; व्याघातश्रुतिविरोधादिदुष्टत्वात् । अत एव
न बाधार्थसामानाधिकरण्यमपि ; विरोध्याकारान्वयाभावे प्रतीताकारबाधयोगात् ,
मुख्ये सम्भवति लाक्षणिकार्थस्वीकारायोगाच्च । तदेवं सत्य एव प्रपञ्चः । सगुणमेव
ब्रह्म । तच्च जीवाच्छरीर(रि)त्वादिभिर्भिन्नम् । तादृशमेव चोपासितव्यम् । उपासनमेव च
वेदान्तविहितमोक्षोपायः । तच्च कर्मानुगृहीतम् । कर्म च फलाभिसन्धिविशिष्टवेपेण
मुमुक्षोर्हेयम् । तदेव तेन तत्तत्स्वर्गादिफलाभिसन्धिविरहेण परमात्मप्रीत्यर्थतयानुष्ठितमुपा-
सनानुग्राहकम् । एवञ्च सति कर्मविचारस्य ब्रह्मविचारापेक्षया पूर्ववृत्तत्ववचनमुपपन्नम् ।

ये पुनर्वाक्यार्थज्ञानमात्रात् मिथ्याभूतबन्धनिवृत्तिरिति वदन्ति, तेषां प्रत्यक्षश्रुति-
स्मृतिन्यायादिविरोधो भाष्ये प्रपञ्चितः ; शारीरकापशूदाधिकरणनयविरोधश्च तत्रैव दर्शि-
तः—तत्पक्षे शूदादीनामप्यर्थित्वसामर्थ्ययोरनपायात् कर्मणां विविदिषामात्रहेतुत्वाभ्यु-
पगमात् , जन्मान्तरशतानुष्ठितैरपि तैर्विविदिषोत्पत्तिसम्भवात् , भेदवासनाकृष्टचेत-
सामपि वेदान्तमन्तरेण साङ्ख्यादिभिरपि तत्त्वचिन्तनप्रवृत्तैर्बुभुत्सोत्पत्त्युपपत्तेः, तदनन्तरञ्च
भवद्भिमतैस्तर्कादिभिरपि तथाविधज्ञानसम्भवात् , शास्त्रजन्यस्यापि ज्ञानस्य ततो विशेषा-
भावात् , अशास्त्रवश्यैर्वा भवत्सिद्धान्तनिष्ठैर्ब्रह्मविद्भिराचण्डालं तदुपदेशसम्भवादित्यादिभिर्हे-

तुभिः । तच्चाधिकरणमेवं प्रवृत्तम् । ‘शुगस्य तदनादरश्रवणात् तदाद्रवणात् सूच्यते हि’
 ‘क्षत्रियत्वगतेश्च’ ‘उत्तरत्र चैत्ररथेन लिङ्गात्’ ‘संस्कारपरामर्शात्तदभावाभिलापाच्च’ ‘तदभाव-
 निर्धारणे च प्रवृत्तेः’ ‘श्रवणाध्ययनार्थप्रतिषेधात्’ ‘स्मृतेश्च’ इति । पूर्वत्र देवादीनामधिकार
 उक्तः ; इह तु शूद्रस्य किं ब्रह्मविद्यायामधिकारोऽस्ति न वेति विचार्यते । अस्तीति पूर्वः
 पक्षः । नेति सिद्धान्तः । तदर्थं विचार्यते किं शूद्रस्य साङ्गब्रह्मविद्योपसंहारसामर्थ्यमस्ति न
 वेति । यदास्ति तदा शूद्रस्याधिकारसम्भवः । यदा तु न, तदा अनधिकार इति फल-
 फलिभावः ।

तत्र पूर्वः पक्षः—ब्रह्मविद्यायां शूद्रस्याधिकारसम्भवतीति, अर्थित्वसामर्थ्ययो-
 रसम्भवात् । आध्यात्मिकादिदुःखाभितसस्य तज्जिहासया हेयप्रत्यनीककल्याणगुणगणा-
 करब्रह्मप्राप्तावस्थित्वं सम्भवति । सामर्थ्यञ्च पटुतरदेहेन्द्रियादिकम् ; अतः त्रैवर्णिकव-
 द्ब्रह्मोपासनं सम्भवति । ब्रह्मस्वरूपतदुपासनप्रकारज्ञानञ्चानधीतवेदस्यापि शूद्रस्य इति-
 हासपुराणश्रवणादेव सम्भवति । अस्ति हि शूद्रस्यापि इतिहासपुराणश्रवणानुज्ञा ।
 ‘श्रावयेच्चतुरो वर्णान् कृत्वा ब्राह्मणमग्रतः’ ‘शूद्रसुखमवाप्नुयात्’ ‘शूद्रोऽपि महत्त्व-
 मीयात्’ इत्यादिभिः ।

ननु उपासनविधीनां स्वाध्यायजन्यमेव ज्ञानमुपकारकम्, नेतिहासादिजन्यम् ;
 यथा ज्योतिष्टोमादिकर्मविधयः त्रैवर्णिकविषयाध्ययनविधिसिद्धस्वाध्यायसम्पाद्यज्ञानलाभेन
 सविषयत्वात् शूद्रादेरक्लृप्तस्वाध्यायादिकल्पनासम्भवात्तदेव स्वोपायतया स्वोर्कुर्वन्ति ; तथो-
 पासनविधयोऽपीति पूर्वकाण्डोदितापशूद्राधिकरणन्यायेनैव सिद्धत्वात् कथमिह ब्रह्मोपासने
 शूद्रस्याधिकारः पुनराशङ्क्यते ? उच्यते—स हि न्यायस्तत्रैव जीवति, यत्रापवादवचनञ्च
 दृश्यते । यत्र त्वपवादकं वचनमस्ति, तत्र तु नायं न्यायः प्रवर्तितुमर्हति । न हि वचनविरोधे
 न्यायः प्रभवति ; वचनाङ्गत्वान्न्यायस्य । ‘प्रमाणानुग्राहकस्तर्कः’ इति हि न्यायविदः । यथा
 ‘रथकारोऽग्नीनादधीत’ ‘निषादस्थपतिं याजयेत्’ इत्यादिष्वपशूद्रनयबाधेन श्रुतिसिद्धो
 रथकारादेराधानाद्यधिकारोऽङ्गीक्रियते । एवमत्राप्यपशूद्रनयबाधेन ब्रह्मोपासने शूद्रस्याधिकार-
 शङ्क्यते । किं पुनरिहापशूद्रनयातिक्रमकारणम् ? वचनमेवेति ब्रूमः । ‘आजहरेमाश्शूद्रा-

नेनैव मुखेनालापयिष्यथाः' इति छान्दोग्ये संवर्गविद्यायां रैको जानश्रुतिं शूद्रशब्देनामन्य-
तस्य ब्रह्मविद्यामुपदिशति । इतिहासपुराणेषु विदुरादीनां ब्रह्मविद्यानिष्ठतादर्शनं श्रुतिसिद्ध-
मधिकारमुपबृंहयति । यज्ञादिकर्मापेक्षत्वं विद्यायाश्शूद्रानधिकारं गमयतीति चेत्, न ;
यथा अनाश्रमिणां विदुरादीनां आश्रमिणां नैष्ठिकादीनाञ्च विद्यानिष्ठत्वदर्शनात्तेषु यज्ञाद्यन-
पेक्षा विद्येति स्वीक्रियते, तद्वदत्रापि शूद्रस्य विद्याधिकारे सिद्धे स्ववर्णोचितपूर्ववर्णशुश्रूषा-
द्यङ्गिका विद्या शूद्रे, न पुनर्यज्ञाद्यपेक्षेति निश्चीयते । अतश्शूद्रस्याप्यधिकारोऽस्तीति ।

राद्धान्तस्तु—न शूद्रस्य ब्रह्मविद्याधिकारस्सम्भवतीति ; सामर्थ्याभावात् । न ह्यनधी-
तवेदस्याश्रुतवेदान्तस्य ब्रह्मस्वरूपतदुपासनप्रकाराद्यनभिज्ञस्य शूद्रस्य विद्योपसंहारसामर्थ्य-
सम्भवः । कर्मविधिवदुपासनविधयोऽपि त्रैवर्णिकविषयाध्ययनविधिसिद्धस्वाध्यायसम्पाद्य-
ज्ञानमेव हि स्वोपायतया स्वीकुर्वते । इतिहासादेस्तु वेदोपबृंहणद्वारेणैव ज्ञानहेतुत्वम् ; न
स्वातन्त्र्येण ; 'इतिहासपुराणाभ्यां वेदं समुपबृंहयेत्' इति वचनात् । श्रवणानुज्ञानन्तु
पापक्षयादिफलार्थम्, नार्थज्ञानार्थम् । विदुरादयस्तु भवान्तराधिगतज्ञानाप्रमोषाद्विद्या-
निष्ठा इति न तच्छूद्राधिकारलिङ्गम् । संवर्गविद्यायां तु शूद्रशब्दः शोचनाच्छूद्र इत्यव-
यवशक्त्या ब्रह्मज्ञानाभावनिमित्तशोकवति क्षत्रिये जानश्रुतौ वर्तते । रथकारन्यायेन रूढि-
शक्तिरेव किमिति नाद्रियत इति चेत् ; उच्यते—पूर्वापरपर्यालोचनया जानश्रुतेः क्षत्रियत्वा-
वगमादवयवशक्तिनिमित्तभूतस्य शोकस्य श्रुत्यैव विस्तरेण प्रतिपादनाच्च यौगिकोऽत्र शूद्र-
शब्द इति निश्चीयते । रथकारादौ तु नावयवार्थप्रतिपादकं वचनमस्ति । नापि त्रैवर्णिकत्व-
लिङ्गं किञ्चिद् दृष्टमिति न रूढिशक्तिबाधः । अतश्शूद्रशब्देन जानश्रुतिमामन्य ब्रह्मविद्यो-
पदेशः न विद्यायाः शूद्राधिकारमापादयति । तस्मादपशूदनयातिक्रमकारणाभावाद्ब्रह्मविद्याया-
मपि स एव न्यायः प्रवर्तत इति नाधिकारश्शूद्रस्यास्ति । स चायं न्यायोऽपास्तसमस्त-
वर्णाश्रमधर्माणां स्वाज्ञानमात्रकलुषितपरब्रह्मणां कलिब्रह्ममीमांसकानामसङ्गतः । ये पुनरि-
दानीं योगसिद्धिहानिकरसम्माननाभीरुष्वनाविष्कृतशक्तिविद्याभिजन्ममहिमसु नडवदाच-
रणमात्रप्रवृत्तेषु अदूषितसर्वधर्ममर्यादेषु आदिभरतादिष्वपि स्वैरचारमारोप्य वर्णाश्रम-
धर्मव्यवस्थालिङ्घिन आचण्डालमेकीभूयान्तर्गतचार्वाकादिमर्यादाः ब्रह्मविदो भव-

न्ति, तैस्सह वादरूपसम्भाषणमपि निरयपतनकारणं वदन्ति सन्तः । श्रुति-
स्मृत्यादयस्तु निर्भया जगद्धिताधिकृताः कृत्स्नांस्तान्प्रतिक्षिपन्ति 'नाविरतो दुश्चरिता-
न्नाशान्तो नासमाहितः । नाशान्तमनसो वापि प्रज्ञानेनैवमाप्नुयात्' 'स खल्वेवं
वर्तयन् यावदायुषं ब्रह्मलोकमभिसम्पद्यते न च पुनरावर्तते' 'नियतस्य तु सन्नधासः
कर्मणो नोपपद्यते । मोहात्तस्य परित्यागस्नामसः परिकीर्तितः ।' 'सतां मार्गमदूषयन्'
इत्यादिकाः । सूत्रितञ्च 'सर्वान्नुमतिश्च प्राणात्यये तद्दर्शनात्' इति 'अनाविष्कुर्व-
न्नन्वयात्' इति च । अतस्त्रैवर्णिकानामेव विधिनिषेधशास्त्रकिङ्कराणां ब्रह्मविद्याधिकार
इति सिद्धम् ।

॥ इति वत्सकुलतिलकश्रीवरदगुरुविरचितायां श्रीभाष्यप्रमेयमालायां
निर्विशेषवादिनां अपशूद्रनयादिविरोधापादनम् ॥

॥ श्रीभाष्यप्रमेयमाला समाप्ता ॥

॥ वात्स्यश्रीवरदगुरुवे नमः ॥

॥ शुभमस्तु ॥

REVIEWS.

The Philosophy of Aesthetic Pleasure by P. Pancapagesa Sastri with a Foreword by Mahamahopadhyaya Prof. S. Kuppaswami Sastirigal. Pp. xxiv+324. 1940. (Annamalai University).

This volume contains the Thesis presented by the author for the M. O. L. Degree of the University of Madras. Its theme is Indian Aesthetics—a subject in which, as in so many others investigated by them, the ancient Indians have advanced numerous theories. Many of these theories are briefly referred to here; but the volume is chiefly concerned with the elucidation of the most prominent among them, which is known as the theory of *rasa*. The book is divided into ten chapters. The first three of them deal with the subject in a general way and point out the importance as well as the antiquity of the *rasa-theory*. It is mentioned already in the *Nāṭya-śāstra* of Bharata, the earliest work on Sanskrit literary criticism that has come down to us. The next four chapters treat of the chief interpretations of Bharata's view of *rasa* and show how the latest of them, which we owe to Ānandavardhana and Abhinavagupta of the 9th and 10th centuries respectively, is the best. This view superseded all the rest, and has virtually dominated Indian literary criticism ever since. The next two chapters are taken up with the discussion of the exact significance of this theory, the extent of its influence and the modifications, all more or less slight, which it underwent in later times. The last chapter deals with the number of *rasas*, and considers in particular the question whether the *śānta* can be the predominant *rasa* in poetry and in the drama. The view maintained here, on the strength of the opinions of great critics and the practice of artists of the first rank like Vyāsa and Aśvaghoṣa is that it can well be so.

The literature relating to this subject in Sanskrit is vast and the author shows a close acquaintance with it. His exposition of the main theme, 'the suggestion theory' of *rasa* as he terms it, is very good. But there are large portions of the book which dwell at unnecessary length on matters that are well known to students of Sanskrit criticism. We have also come across a few doubtful or misleading statements. In dealing with Bhaṭṭa Lollata's view, for instance, it is stated (pp. 64 ff) that the *anubhāvas* or expressions of the emotions help the spectator in inferring the mental attitude of the hero and the heroine. But the

spectator's conclusions in this respect have nothing whatever to do with the 'generation of *rasa*' in the actors or the characters represented by them. The *anubhāvas* seem rather to serve as aids to the hero and the heroine themselves to discover each other's frame of mind. But speaking as a whole, the book brings together a good deal of information touching the theory of *rasas*, which now lies scattered in many books; and its publication will accordingly be welcomed by all students of Sanskrit literature. The various indexes included in the volume and the analytical table of contents will greatly facilitate the work of referring to it.

M. H.

Nītimālā by Nārāyanārya : Sanskrit Text edited with Introduction and Notes, by Prof R. Ramanujachari, M.A. and Pandit K Srinivasa-charya, Siromani. cxii+pp. 94. 1940. (Annamalai University).

This is the second volume of the "Philosophy Series" planned by the Annamalai University, of which the first, viz, the *Nyāya-kulīśa*, edited by the same two scholars, appeared some time ago. Like it, this book also is published for the first time now; and the editorial work has been done with all the critical care to which we drew attention in reviewing the earlier volume in this journal. It was a high standard which they set themselves in it, and that standard is fully maintained here. Students of Indian philosophy are greatly indebted to the learned editors for placing within their easy reach such rare and important works, and to the University for encouraging their publication. The text of the *Nītimālā*, as printed here, is the result of collating three manuscripts; and all the variations in reading found in them have been noted. In one or two places, there are small gaps, but otherwise the text is complete; and where the Mss. are corrupt or are defective in any other way, the emendations suggested by the editors seem to us to be quite satisfactory. They have also included in the volume lucid summaries of the argument of the work both in Sanskrit and in English, the latter being somewhat fuller than the former. These summaries, together with the analytical table of contents prefixed to the text, are sure to be of great service to students. There are also appended to the edition various indexes to facilitate reference to the work. We may observe, in passing, that the quotation beginning with *Tallabdhah* is not from Bodhāyana, as indicated in the Index to quotations, but from a different thinker, viz., Brahmanandin who is known as the Vākya-kāra.

The author, Nārāyaṇaṛya belongs to about the end of the 12th or the beginning of the 13th century and holds an honoured place among the exponents of Viśiṣṭādvaita as shown, for example, by Vedānta Deśika's reference to him as 'a man of wisdom' (*prājña*). He seems to have written, at least, one other book—an abridgement of the *Mīmāṃsā-darśana*. The present work is written in prose interspersed with verses, and contains a brief but a very clear exposition of the fundamentals of Rāmānuja's teaching. It is divided into 10 chapters. Of them, four are directly concerned with the refutation of doctrines which, like the Viśiṣṭādvaita, are based primarily on *Śruti* or Revelation, viz., *Mīmāṃsā* and some schools of Vedānta. The *Mīmāṃsā* subordinates the Upanishads to the *karma-kāṇḍa* of the Veda and thus differs from the Vedānta in the view it takes of the final import of Vedic teaching. One of these four chapters, viz., the second in the order of the book, criticises this view and points out that it is the *jñāna-kāṇḍa* or the Upanishads which constitute the principal part of the Veda. The next three chapters are devoted to a discussion of the doctrines of Śaṅkara, Bhāskara and Yādava, which appear to have had the greatest vogue about the time, and make out that they are not only at variance with the teaching of the Veda, taken as a whole, but are also logically untenable. The remaining chapters also refer to other doctrines; but they do so only incidentally, their main purpose being the exposition of one or more distinctive aspects of the Viśiṣṭādvaita view. Chapters 6 and 7, for example, together elucidate the conceptions of Brahman or God, the individual souls and the physical world, showing how the latter two are other than, though inseparable from, the first. Chapters 9 and 10 deal similarly with the nature of the ideal state of *mokṣa*, and with the twofold way of *bhakti* and *prapatti* recommended for achieving it.

There are two or three points in which the views put forward in this work are not precisely the same as are now commonly associated with the Viśiṣṭādvaita doctrine; but none of them, we should add, is really in discord with the spirit of Rāmānuja's teaching. For example, the explanation of error given here (p. 25) is what is known as *anyathā-khyāti* and not *yathā-khyāti* as set forth in the *Śrī-bhāṣya*. But from what Vedānta Deśika states in his *Sarvārtha-siddhi* (i. v. 9), we cannot say that the former explanation was altogether unacceptable to Rāmānuja. Again, the significance which is attached here to *vidhi*s (p. 60) is different from that assigned to them by Rāmānuja in his *Vedārtha-saṃgraha*. But the difference is not material as pointed out by the same thinker (*ibid.* v. 96), and is due merely to a shifting of the emphasis from one aspect of a *vidhi* to another. While Rāmā-

nūja's view lays stress on the idea of the good involved in it and keeps its mandatory character in the background, our author's explanation of it does the reverse.

The work is, comparatively speaking, easy; and, by its style as well as by its size, it is very well suited to meet the needs of those that desire to make their first acquaintance with Rāmānuja's doctrine. With the English aids to study, which the present edition contains, it should prove particularly useful to students in our Universities. It may not be so comprehensive as the *Yatīndra-mata-dīpikā* which is now sometimes used as a text-book by beginners; but it is less packed with facts, and its treatment of the subject is, on the whole, much better from the standpoint of students of philosophy.

M HIRIYANNA.

Annamalai University Economic Series—No. 7

GENERAL EDITOR

Professor B. V. NARAYANASWAMY NAIDU

GROUNDNUT

SECTION I

GROUNDNUT—ITS CULTIVATION

Groundnut is cultivated both as a rain-fed and also a hot weather irrigated crop. The new "Saloum" variety introduced recently has gained ground and has been slowly extending to the various parts of the district. The crop is sown generally as a mixed crop and is cultivated along with Tenai or Ragi where well-irrigation is in practice. In hot weather, Ragi is first sown or planted, and groundnut is subsequently dibbled in when the cereal is in flowers. Occasionally it is grown as a pure crop, in which case it is sown early in January. As the cultivation of the dry crop is profitable, there is a tendency to utilize more cattle manure in these lands than on wet ones. Though the cereals are inter-cultivated with this crop, yet the yield of groundnut has not gone down. On the other hand, the yield has increased owing to the recuperative effect the groundnut crop has on land. The inter-cultivation of groundnut with cereals provides the thick population of this district with a means of improving its poor income.

Since the market for groundnut has been declining in recent years, there has been an attempt on the part of some ryots to change over to cotton cultivation to a certain extent. This new crop is slowly being introduced in the South Arcot District and there is a ginnery working at Villupuram.

The groundnut plant is an annual herbaceous plant, belonging to the natural order of Papilionaceae, with pea-shaped flowers. The leaves have four leaflets which are arranged on the leaf-stalk in two pairs exhibiting sleep movements at night. The stem attains from one to three feet in height according to the variety and the soil in which the plant is cultivated. Though there are several varieties of this plant under cultivation in different parts of the globe, the two varieties that are commonly met with in India are the spreading and bunch types. The commercial classification of the varieties is based on the shape of the mature pods, the number and colour of the seeds they contain and the manner in which the pods are produced on the stem of the plant.

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The common variety that is grown in South Arcot takes five to six months to mature. In the initial stages of the plant's growth very little moisture is required. Till the flower begins to appear, the plant can withstand drought. As such, the sowing period is so selected as to make rain available in the last phase of the plant's life. In those tracts where the influence of the South-West monsoon is meagre, but are affected by the North-East monsoon, sowing operations are undertaken towards the end of July or at the beginning of August. In tracts having summer showers with seasonal rains from the middle of May, the crop is raised in April. In brief, the cultivator adjusts the sowing according to the seasonal rainfall of the tract.

Loose sandy loam is best fitted for the raising of this crop. Cultivation in heavy soil increases the cost of production and lowers the yield. The land is well drained before sowing as the plant will get diseased if water is allowed to stagnate in the field. Even a slight rainfall at the initial stages of the plant's growth will adversely affect the growth of the plant.

The land is first prepared for the crop by weeding in the initial stages. Weeds like Hariali and Korai seriously hamper the growth of the plant, affecting the yield. Hence the weeds, which grow after the seasonal rain, are first cleared in order to keep the beds clean. After weeding, the land is ploughed two to six times before manuring.

Manure is applied to the land before the last ploughing. Five to ten cartloads of manure, a mixture of ash, town or village sweepings and cattle manure are applied to an acre of land. In addition to these, tank silt and sheep penning are also spread over the field.

A few days after sowing, the nuts germinate. Slowly the plant covers the ground and begins to produce flowers. The rate of growth of the plant determines the rate of production of flowers. The maximum growth is seen during the third and fifth fortnight. Hence this period is termed the "grand period of growth." Followed by this period, is a decrease in the rate of growth, with a subsequent increase. After that there is a gradual decrease in growth. The critical period in its growth, which is definite but varying, is just before the first fortnight of flowering. It is necessary to see that this period coincides with the most advantageous part of the season so that the best development of the plant may be obtained.

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Regarding flowering, there are three distinct phases. The bunch varieties of short duration start flowering about the 23rd day after sowing. After the first flowering, there is a rapid and steep increase in the production of flowers. After a week when the maximum rate is reached, there will be a progressive fall. In the local and "Saloum" varieties the flowering period begins after 34 and 32 days. As already remarked, the period of flowering lasts for a month.

The soil is loosened with the hand hoe to enable the plant to grow well. For this, labour is essential and, therefore, any scarcity of labour will greatly handicap the growth of the plant. Wherever scarcity of labour is felt, the method of sowing the crop in rows, intercultivation and the use of the bullock hoe, are strongly recommended by the Agricultural Department. Frequent hoeings are necessary to increase the growth of the plant. No stipulation as to number of hoeings can be made, for they depend on the soil and the variety of crop sown. But it can be said with safety, that such a procedure has to be continued for the first three months of the plant's growth. When the seasonal rains cease, the hoeings are done in order to retain the moisture in the ground and also to prevent the emergence of weeds. As the interspaces between plants are ample, bullock hoes can be utilized for hoeing.

Groundnut is cultivated as a mixed crop in many tracts. In South Arcot, it is grown along with cereals like Cholan or Cumbu. For this purpose "long duration varieties" are chosen, so that when the cereal is ready for harvest, the groundnut crop will be sufficiently grown up. Till then the cereal will serve to shade the young plant.

The method usually adopted is to broadcast the seed of the cereal and then level the ground. The seed-bed is made firm by dragging a harrow across the ploughing. When the cereal has grown six inches, weeding and hoeing are undertaken. Hoeing and weeding are repeated when the rains set in and the land is thus prepared for the sowing of groundnut which is done when the cereal begins to flower. The groundnuts are then dibbled in nine inches apart. This mode of cultivation greatly benefits the cereal crop.

For sowing, the cultivators purchase seeds occasionally. Clean pods are purchased and are shelled by hand. Only well-filled kernels are used for sowing, and mouldy ones are rejected.

The cultivators drop the seed into the plough furrow behind each plough when the crop is raised as a pure one. This involves hardship to

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the cultivator, for, as the plants are too close, their full growth is checked and further hoeing operations cannot be successfully carried out. Besides this, if heavy rain sets in, the plots get water-logged and thus the plants are injured.

An improved method of sowing is generally to drop the seed at intervals of six to nine inches into every third plough furrow according to the quality of the soil. This procedure saves a considerable quantity of seeds and also reduces the cost of cultivation.

When the pods are formed at the end of the fourth month, the plant is ready for harvest. The stalks of the underground pods get dried and the skin of the kernels turns pink. This is the proper time for the crop to be lifted up. Even at this stage some pods may be immature.

The method of harvesting differs according to soil and climate. In South Arcot, in light loamy soil a mammottie is attached to a drought pole and worked like a plough to loosen the soil to a depth of about four inches. If the crop is too ripe or if the soil has hardened, many of the nuts may stick to the soil. To remove them, the pods at the top are taken first and pods adhering to the stem are picked next. Then the soil is loosened and the pods left underground are raked and picked.

When the harvesting is over the produce is spread in the open air in sunlight for drying and at nights they are heaped up and covered with straw. This process is repeated until the pods are completely dry.

We have already noted that the crop is also raised as an irrigated summer crop. Since it is a profitable venture, the cultivators adopt this procedure.

The crop is grown as a mixed one along with a cereal like ragi or cholam which is broadcast in the field when sown. When the crop is raised as a pure one, the seeds are dibbled in at 6" to 9" apart in the dry beds and watered immediately. At times the cultivators sow the local Mauritius variety close together but this entails heavy expenditure as we have already noticed.

Various methods of cultivation have been tried for experiment in the Agricultural Research Station, Palur, and the results recorded. One of its improved methods is as follows:—Seeds are sown in the furrow of every third plough furrow at intervals of 6"—9". Before sowing the land is well irrigated and left dry. As soon as the soil is dry, it is

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levelled by means of a harrow in order to preserve the moisture in the soil to facilitate germination.

Being an irrigated crop, sufficient drains are made for water to flow. If the land is uneven, subsidiary channels are constructed across the rows from where the crop can be irrigated in each direction along the furrows. The furrows are occasionally raked with bullock-hoes to prevent evaporation. In the initial stages the irrigation is done once in a fortnight. The length of the interval between the irrigations varies with the texture of the soil. Hoeing and weeding operations cease when the plant begins to spread out. The furrows are kept open for frequent irrigation. When the pods begin to mature irrigation is stopped. Harvesting is done in the same manner as the rain-fed crop.

The yield varies according to the variety and also the manner of cultivation. As a rainfed crop, the bunch and spreading varieties produce on an average 750 lbs. and 1,000 lbs. of pods respectively. On the other hand, the yield has been calculated at 2,000 lbs and 2,500 lbs. for the bunch and spreading varieties when cultivated as an irrigated crop.

The cost of cultivation for both forms, rain-fed and irrigated, is tabulated below to show the difference in the expenditure involved. The net profit has been calculated to indicate which procedure is more paying. The figures are compiled from information gathered from the Tindivanam Agricultural Research Station.

[Experiments regarding yield, the variety to be utilized for maximum production and for thwarting pests and diseases, are described in later sections]

COST OF CULTIVATION TABLES.

(Spreading type—calculated per acre).

Rain-fed

1. *Preparatory Cultivation.*

Ploughing four times—6 pairs @ 10 annas	Rs. as. ps.	Rs. as ps.
a pair (including those for covering manure and sowing)	..	3 12 0

GROUNDNUT

	Rs. as. ps.	Rs. as. ps.
2. <i>Manures and Manuring.</i>		
Cost of ten cart-loads of manure @ 6 annas a cart load ..	3 12 0	
Charges for carting—2 carts @ Re. 1 per cart ..	2 0 0	
Spreading manure—6 women at 2 annas each ..	0 12 0	
	<hr/>	6 8 0
3. <i>Seeds and Sowing.</i>		
Cost of 75 lbs. of kernels at 16 lbs. a rupee	4 11 0	
Sowing behind country plough and covering with brush harrow— $\frac{1}{4}$ pair @ 0-12-0 a pair and 2 women @ 2 as each ..	0 7 0	
	<hr/>	5 2 0
4. <i>After Cultivation.</i>		
Hoeing and weeding twice—24 women @ 2 annas each ..		3 0 0
5. <i>Harvesting.</i>		
Mammootie digging—12 men @ 3 annas each	2 4 0	
Stripping pods from vines and picking pods left out in the soil—60 men @ 2 annas each ..	7 8 0	
Drying and cleaning—4 women @ 3 annas each ..	0 12 0	
	<hr/>	10 8 0
6. <i>Assessment.</i>		1 0 0
		<hr/>
		29 14 0
		<hr/>

Total cost of cultivation per acre for the rain-fed crop is Rs. 30-0-0 approximately.

CULTIVATION

Value of the Produce.

Yield of pods—1,200 lbs. per acre or 900 lbs. of kernels.	Cost of	
		Rs. as. ps.
900 lbs. of kernels @ Rs. 25/- per candy of 531 lbs. is =		43 0 0
Value of haulms, 2000 lbs. @ 1000 per rupee		2 0 0
		<hr/>
Total cost of produce ..		45 0 0
		<hr/>
Net profit per acre ..	Rs.	15 0 0
		<hr/>

Irrigated Crop

1. <i>Preparatory Cultivation.</i>	Rs. as. ps.	Rs. as. ps.
Ploughing four to six pairs @ 10 annas a pair (including the one for covering the manure) ..		3 12 0
2. <i>Manures and Manuring.</i>		
Cost of 10 cart-loads of manure @ 6 annas a cart-load ..	3 12 0	
Carting charges for two carts @ Re. 1 each ..	2 0 0	
Spreading manure—6 women @ 2 annas each ..	0 12 0	
	<hr/>	6 8 0
3. <i>Seeds and Sowing.</i>		
Cost of 64 lbs. of kernels @ 16 lbs. a rupee	4 0 0	
Forming beds and sowing ..	2 6 0	
	<hr/>	6 6 0
4. <i>After Cultivation.</i>		
Hoeing and weeding—32 women @ 2 as each	4 0 0	
Irrigation—12 times at Rs. 2/- each	24 0 0	
	<hr/>	28 0 0

GROUNDNUT

5. *Harvesting.*

Mammootie digging—16 men @ 3 annas each ..	Rs. as. ps. 3 0 0	Rs. as. ps.
Stripping pods and picking pods from the soil—100 women @ 2 annas each ..	12 8 0	
Drying and cleaning—8 @ 3 as. each	1 8 0	
	<hr/>	17 0 0

6. *Assessment.*

2 0 0
<hr/>
63 10 0
or
64 0 0
<hr/>

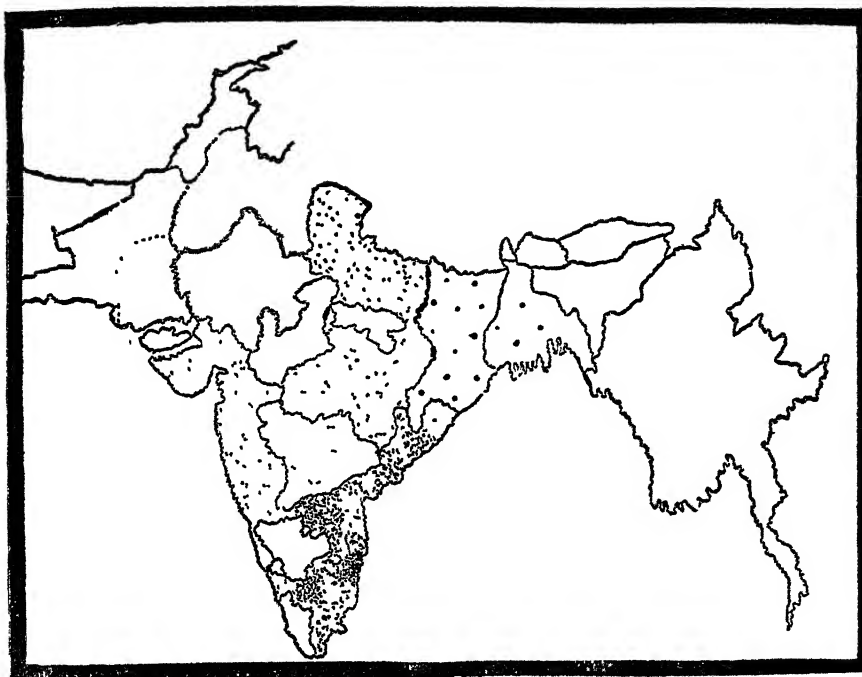
Value of the Produce

Yield of pods—2,400 lbs. per acre or 1,800 lbs. of kernels. Cost of 1,800 lbs. of kernels @ Rs. 25/- per candy of 531 lbs.	86 0 0
Value of haulms—4000 lbs. @ 1,000 lbs. per rupee ..	4 0 0
Total value of the produce ..	<hr/> 90 0 0
Net profit per acre on the irrigated crop	<hr/> 26 0 0

N.B. :—The price of groundnut in calculating the value of the produce was taken to be Rs. 25. It should be borne in mind that the ruling price is only about Rs. 19.

CULTIVATION

MAP OF INDIA SHOWING THE DISTRIBUTION
OF GROUNDNUT ACREAGE



SECTION II

THE ACREAGE OF CULTIVATION

The groundnut of commerce is known by several common names, such as peanut, earthnut, chinese-nut and l'archidaeu. In India and other countries where it is grown, it is differently known in the vernacular languages by names which are merely translations of one or the other of those mentioned.

The plant which produces groundnut is known botanically as "*Arachis hypogea*" It is unknown in a wild state and its native country has been a matter of uncertainty. There is reason to believe, however, that it originated in tropical South America, since several species belonging to the genus *Arachis* are commonly found in that continent. There are other species of peanuts, among which may be mentioned "*Arachis nambyquarae*, *Voandzeia subterranea*, and *Stylosanthis mucrowata*." *Arachis nambyquarae* like *Arachis hypogea*, is freely found in Brazil. It is cultivated by the Nambyquarae Indians in Rondonia, Matto Grasso. It is surmised that peanut was first carried from Brazil to Africa by slave ships; by the same manner it was conveyed to Virginia from the African shores.

(a) *World acreage*†:—The important groundnut producing countries are India, China, United States, Senegal, Nigeria, French Sudan, Gambia, Dutch East Indies, Japan, Spain and Argentina. China comes next to India with two billion pounds per year. The nuts are grown in most parts of China but the chief producing provinces are Shantung, Kwantung, Honan and Chikli. Manchuria also produces large quantities of groundnut. Although a small podded variety was grown in China for a long period, her extensive peanut industry had its real beginning only by 1889, when Archdeacon Thompson, an American missionary, took four quarts of Virginia peanuts to Shanghai.*

† Vide Appendix Table I

* Vide "Vegetable Fats and Oils" by Jamieson. Monograph No. 58, pp 132.

THE ACREAGE OF CULTIVATION

Next to China come the United States and Senegal in order of importance with annual average yields of over 700 million pounds of peanuts. In the United States the peanuts are grown throughout the southern states but commercial production is chiefly confined to rather limited areas.

The statistical data available for groundnut production for the years prior to 1914, are not satisfactory and complete. But judged from exports, the acreage and production were probably about one third of their post-war maxima.

With the close of the Great War in 1918, the cultivation of groundnut began to increase markedly. The acreage under groundnuts in those countries for which statistical information is available rose from an average of 6.6 million acres in 1924—1926 to an average of 9.5 million acres in 1930-32, showing an increase of 48.5%. In 1930-32 more land came to be utilized for the cultivation of groundnut, thus affecting the world total acreage. As compared with 1924-26, the acreage of cultivation in India had increased by 60% in 1930-32, owing to a greater variety of uses for which the produce came to be utilized during the interval. The next largest increase was noticed in U.S.A. where a rise of about 40% brought the average acreage during 1930-32 to 1.4 million acres. In the other countries the acreage of cultivation remained stable, none of them showed any decline.

Though there was a downward trend in India during the depression, soon an upward march was noticed, and it reached its maximum in 1933 contributing about 7,586,000 acres. After 1933-34 there was a retrograde step in this increase in acreage, but in 1937 it recorded 8,652,000 acres. Though complete figures for China are lacking, it has shown rapid strides in recent years in the cultivation of groundnut, recording nearly 3,686,000 acres. With a record of steady increase up to 1932, U.S.A. had a decline in 1933 with a gradual recovery extending to 1936. But 1937 recorded a slight decrease. After a fall in 1933, Senegal experienced a gradual rise up to 1936. In Argentina there was a steady increase and the figures show that there is a two-fold increase in 1936 when compared with the figures for 1930.

(b) *India**:—Historical records refer to the existence of the groundnut plant in India as early as the 16th century. As a commercial

* Vide Appendix: Table II.

GROUNDNUT

crop it remained in darkness as late as the second half of the nineteenth century. Between 1850 and 1890 the area under cultivation is shown to have increased from 4000 acres to 275,000 acres. Thus within forty years the figures showed an increase of over sixty times. But the country was not fortunate enough to benefit by this prosperity, for a devastating plant disease vitally affected the crop and greatly reduced the output with a subsequent shrinkage in the acreage under cultivation. The repercussions of this visitation were keenly felt in subsequent years. But the introduction of a new variety soon after averted a catastrophe at the proper time. It not only resuscitated the cultivation but doubled the acreage under groundnut. As a result of it, the plant was cultivated over two million acres in 1914.

When the Great War broke out in 1914, the Indian groundnut trade received a set-back. Continental ports ceased to operate during that period, and Marseilles, the chief importer of groundnut was almost closed to the Indian exporter. Moreover, the scarcity of shipping space, higher freight and insurance charges, and exchange difficulties, increased the hardships of the exporter of the produce. Consequently, the area under cultivation of groundnut came to be reduced. In 1915-16 there was a fall in the acreage of cultivation under groundnut by nearly 700,000 acres from 2,144,000 in 1914 to 1,411,000 acres in 1915-16 in British India. The closing years of the war saw the area under cultivation of groundnut reduced to 1.7 million acres as compared with about 2 million acres in 1914-15 for British India.

Area in thousands of acres.

<i>Year.</i>	<i>Total acreage.</i>	
1914-15	..	2,144
1915-16	..	1,411
1916-17	..	2,069
1917-18	..	1,687
1918-19	..	1,158
1919-20	..	1,306
1920-21	..	1,824

THE ACREAGE OF CULTIVATION

It took two years to recover the original position in acreage. From 1920-29, there has been a gradual rise in the acreage under cultivation with only slight interruptions in the case of British India. In 1929 the area under cultivation was about 6,436,000 acres for the whole of India, nearly thrice the pre-war average. The following figures will illustrate the trend of increase in the acreage:—

In thousands of acres

<i>Year.</i>	<i>India.</i>	<i>British India.</i>
1920-21	2323	1824
-22	2367	1682
-23	2774	2301
-24	2958	2207
-25	3181	2289
1925-26	4259	3474
-27	4442	3493
-28	5536	4401
-29	6436	5102

The above figures illustrate that in 1925-26, the acreage under cultivation falls short of double the acreage of 1920-21 by less than two hundred thousand acres for British India. From 1925-26 onwards until the beginning of the depression the British India figures show a regular increase as in the case of the whole of India.

The depression also affected the area under cultivation. There was a fall of roughly 600 thousand acres between 1928 and 1929 and about a million acres in 1931-32 in the acreage of British India alone. But in 1933-34, with the beginning of recovery, the acreage increased to nearly six millions for British India and eight million acres for the whole of India.

The following table shows the trend of cultivation of groundnut for the years following the depression.

GROUNDNUT

THE POSITION OF GROUNDNUT IN RELATION TO OTHER CROPS IN INDIA

Rice 81.7		Wheat 25.2		
		Jowar 24.0		
Gram 15.8	Bajra 11.4	Barley 6.5	Maiye 6.0	Fruits and Vegetables 4.9
		Ragi 3.6	Sugar cane 4.3	
Other food crops 33.3				
Cotton 15.4	Jute 2.5	Rape and Mustard 3.3		Sesamum 3.7
	Fodder crops 10.8	Linseed 2.4	Ground nut 5.5	
Other Non-food crops 7.2				

THE ACREAGE OF CULTIVATION

In thousands of acres

<i>Year.</i>	<i>India.</i>	<i>British India.</i>
1929-30	5,700	4,558
30-31	6,014	5,323
31-32	5,081	4,306
32-33	6,887	5,488
33-34	7,586	5,948
34-35	5,163	4,016
1935-36	5,197	3,900
-37	6,663	5,511
-38	8,652	7,109

It may be interesting to note here that groundnut has been gaining in importance among oil-seeds throughout the period, 1913-34. Its share in percentage of the total oil-seeds raised including Sesame, Rape and Mustard, Linseed and other oil-seeds, is shown in the table below:—

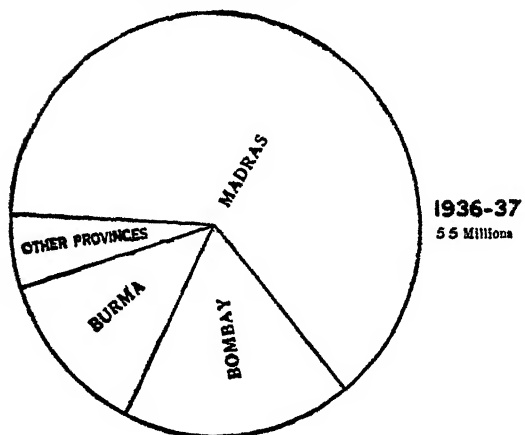
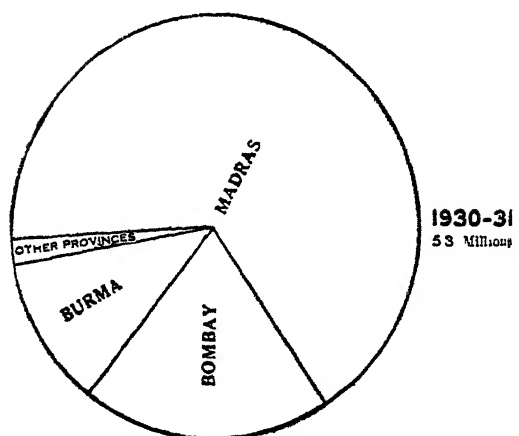
*Share of Groundnuts in percentage to total oil-seeds**

<i>Year.</i>	<i>Percentage.</i>	<i>Year.</i>	<i>Percentage.</i>
1913-14 ..	11	1924-25 ..	16
-15 ..	13	-26 ..	21
-16 ..	10	-27 ..	22
-17 .	13	-28 .	26
-18 ..	12	-29 .	27
-19 .	12	-30 ..	28
-20 ..	10	-31 ..	25
-21 ..	14	-32 ..	22
-22 ..	12	-33 ..	26
-23 ..	15	-34 ..	29
-24 ..	15		

*Vide "Survey of Oil Seeds," Vol. III.

GROUNDNUT

GROUNDNUT : DISTRIBUTION OF ACREAGE



THE ACREAGE OF CULTIVATION

The table reveals how in a few years of prosperity preceding the depression, groundnut has been successfully displacing the other oil-seeds. It may be pointed out that from 19% in 1919-20 and 16% in 1924-25 it rose up to 28% in 1929-30. The pictogram on the adjoining page illustrates the position groundnut occupies among the crops raised in British India.

(c) *Madras Presidency*§:—Of all the groundnut producing centres in India, Madras occupies the premier position, contributing about 60% of the total production. A review of the statistical tables will clearly show how there has been an increase in the average area under cultivation. From 1·8 millions in 1914-15, it increased to 3·77 million acres in 1938-39. Thus while there is a marked increase in the area under cultivation, relatively speaking, *i.e.*, when compared with total acreage, Madras has been periodically experiencing serious fluctuations. The following table will clearly show the truth of the above statement.

Area under groundnut crop in Madras and percentage to total area under oil-seeds

<i>Year</i>	<i>Madras Presidency</i>	<i>Percentage.</i>	<i>Total acreage in India.</i>
1920-21	1,599,738	45·7	2,323,000
21-22	1,459,122	43·2	2,367,000
22-23	1,754,334	49·3	2,774,000
23-24	1,807,353	50·5	2,958,000
24-25	1,904,119	50·8	3,181,000
25-26	2,598,609	57·8	4,289,000
26-27	2,680,156	59·7	4,442,000
27-28	3,336,536	63·6	5,536,000
28-29	3,679,349	66·7	6,436,000
29-30	3,209,315	64·3	5,700,000
30-31	3,575,157	67·1	6,014,000
31-32	2,635,427	59·5	5,081,000
32-33	3,516,679	64·8	6,887,000
33-34	3,779,365	67·0	7,586,000
34-35	2,350,934	58·0	5,163,000
35-36	2,519,965	60·0	5,197,000
36-37	3,495,023	67·0	6,663,000

§ Vide Appendix Table III

GROUNDNUT

The importance of Madras in the field of the cultivation of groundnut is seen "illustrated on page 16" The West Coast being a moist tract with heavy rainfall is suitable for wet cultivation. In the eastern districts, the rainfall being comparatively low, dry cultivation is generally adopted. As such the eastern parts of the Presidency, running from the Chilka lake to Tinnevely, raise the major portion of the dry crop. Moreover, the soil here is not so hard as in the West Coast. The East abounds with loose sandy loam while the West Coast contains hard laterite. Since groundnut cultivation requires loose soil, it is grown in abundance only to the East of the Western Ghats. A review of the crop report clearly shows that South Canara contributes only 25 acres while the Eastern districts like Coimbatore, South Arcot and Bellary, contribute respectively 189,442, 425,725 and 247,894 acres in 1938-39.

Of all the districts in the Presidency, South Arcot stands unique as the largest producer of groundnut. It is followed by North Arcot, Kurnool, Anantapur and other districts. During the years 1914-18, the cultivation of groundnut in this Presidency had a set back. It went as low as 1,136,142 acres in 1915-16. But after the war of 1914-1918, the total acreage of cultivation began to increase and before the depression, the figure was 3,336,536 acres (1927-28), three times the 1915-16 level. The depression period seriously affected the raising of the crop resulting in a fall to 2,635,427 acres in 1931-32. Soon the cultivation was revived and with a slight set back in 1934-35, the rise continued and touched the peak of nearly 4,657,596 acres in 1937-38. Moreover, the produce came to occupy 67% of the total oil-seeds grown in this presidency.

(d) *South Arcot District*.—Groundnut occupies the foremost rank as the dry crop of this district, contributing to the major portion of the produce in this presidency. The largest areas under groundnut cultivation lie in Tindivanam, Tirukoilur, Villupuram, Cuddalore and Vriddhachalam taluks.

As long ago as 1800, Mr. Buchanian travelling across the Carnatic found groundnut being raised in the Mysore plateau. In 1851, the Collector of South Arcot in one of his despatches to the Revenue Board observed that the groundnut crop was a profitable one and already it had taken root in Panruti and Villupuram. Continuing, he said that 3000 acres were being brought under the cultivation of groundnut in

THE ACREAGE OF CULTIVATION

Panruti and 1000 acres in Villupuram taluk. Slowly and steadily, it gained strength and by the closing years of the last century, it displaced indigo which till then occupied a premier position. Slowly it spread from Tiruvavani to the lands south of Gadilam. From there it spread to Tiruchachalam and finally to Kaliekurichi.

Though the area under groundnut remained constant it dropped suddenly in 1880-81 to 88,000 acres, and in 1897-98, to 82,000. The yield per acre slowly decreased thus causing heavy losses to the cultivators. Soon the cultivators began to realize that the prevalent variety had deteriorated and only a new variety would save them from utter ruin and poverty. The exhaustion of the soil and the appearance of numerous plant diseases resulted in further lowering the yield. To the rescue of the cultivators came Parry and Co., who introduced a new variety from Mauritius which bettered the situation. The crop then entered a new phase, and the area under cultivation rose to 100,000 acres in 1889-1900 and reached the maximum of 343,000 acres in 1902-1903.

During the War of 1914-18, South Arcot experienced a downward trend in the cultivation of groundnut which came down to 299,033 acres in 1915-16. But the end of the war saw an increase of 20% in the cultivation. The recovery continued till it reached its peak of 432,978 acres in 1928-29. When the depression set in, there was a shrinkage in the cultivation of groundnut. In the subsequent years there was a slight fall but recovery soon set in and the cultivation reached its zenith in 1937-38, contributing nearly 471,274 acres or nearly 1.6 times the pre-war acreage.

Though there has been an absolute increase in the area under cultivation, there has been a fall as regards the percentage of area under the crop. In 1930-31 the percentage area under groundnut to the total cultivated area was 29 but it slowly went down in 1934-35. Later it rose to 28 per cent in 1938-39. The following table clearly gives the trend.**

* Vide 'South Arcot District Gazetteer.'

** Details regarding other districts are given in the Appendix Table IV

GROUNDNUT

<i>Year.</i>	<i>Percentage of area under groundnut to total area.</i>	
1930-31	..	29
31-32	..	22
32-33	..	22
33-34	..	25
34-35	..	19
35-36	..	24
36-37	..	28
1938-39	.	28

SECTION III

PRODUCTION

(a) *World.**

Enough groundnut has been in existence from very early days, production figures are far from satisfactory prior to the Great War (1914-18). The production figures after 1918 really show a phenomenal increase. Along with this increase in the area under cultivation there has been an increase in total production.

Countries of the British Empire alone account for two-thirds of the world production. India produces about three million tons of groundnut on the undecorticated basis or about one-half of the World's output. China, French West and Equatorial Africa come next, producing about one million tons respectively. It is double the estimated production of British West Africa or the United States of America. Senegal provides more than one-half of the production of French West and Equatorial Africa, while Nigeria accounts for three quarters of the production of British West Africa.

Between 1924 and 1930 production figures rose from 2.7 to 3.8 million tons. The Indian production which was 1.4 in 1924 slowly increased to 2.8 million tons in 1928. The subsequent year saw a sudden fall to 2.4 million tons followed by an increase to 2.5 million tons in 1930. As regards production, Senegal showed a steady increase between 1924 and 1930 recording 0.4 million tons in 1924 and 0.5 million tons in 1930. In U.S.A. the production figures rose from 0.3 million tons in 1924 to 0.4 million tons in 1929. But in the following year the figure dropped to 0.3 million tons, whereas, in Argentina, the production figure which was 0.1 million tons remained constant till 1929, subsequently there was a fall to 0.06 million tons in 1930. Similarly, in the Netherlands East Indies the production estimate which was recorded at 0.2 million tons remained constant till 1930.

After 1930 there was a general fall in the production of groundnut. Almost all countries excepting a few recorded a decrease in the total

* Vide Appendix: Table V.

GROUNDNUT

output. India, the premier country in the production of groundnut, showed a fall from 2·5 million tons in 1930 to 2·1 million tons in 1931. In the same manner, Gambia which recorded 0·07 million tons in 1930 showed a fall to 0·06 million tons in 1931. In Senegal there was a rapid decrease from 0·5 million tons in 1930 to 0·1 million tons in 1931. Likewise, East Indies and Argentina showed a net decline.

Contrary to the above phenomenon, Tanganyika and U.S.A. showed an increase in the total output, while the production in Burma remained constant. In Nigeria the production rose from 0·1 million tons in 1930 to 0·2 million tons in 1931, while in Tanganyika the figure rose from 0·2 million tons to 0·3 million tons in the same period. Similarly, U.S.A. recorded an increase in the total output from 0·3 million tons in 1930 to 0·4 million tons in 1931.

In China, there has been a steady increase in the output since 1931. From 1933, Chinese production increased by leaps and bounds. By the end of 1937, it has been recorded that the production approximately equalled that of India.

(b) India.

The following figures clearly record the increase in yield in India after the War of 1914—18 till the beginnings of the depression. This upward trend is noticeable throughout, the output decreasing at intervals.

Total production of groundnut, 1919 to 1928.

In thousand tons.

<i>Year.</i>	<i>Total Yield.</i>
1919	822
1920	1,022
1921	959
1922	1,236
1923	1,084
1924	1,485
1925	1,999
1926	2,046
1927	2,718
1928	3,119

* Vide Appendix Table VI

PRODUCTION

A perusal of the above table will illustrate the uniform upward trend after 1928. With an abrupt rise in 1929 the production fell to 959 thousand tons in 1931. The year 1932 saw an increase which was continued till 1933 with a fall only in 1934. The output reached its maximum in 1937-38 contributing 3 501 thousand tons. Compared to 1929, the average total output for the depression period 1929-32 fell from 2119 thousand tons to 2274 thousand tons.

Total Production of Groundnut

In thousand tons

Year	Total production	
	All-India	British India
1929-30	2,180	1,948
30-31	2,592	2,252
31-32	2,151	1,765
32-33	2,846	2,353
33-34	3,186	2,473
34-35	1,740	1 333
35-36	2,114	1,655
36-37	2,714	2,110
37-38	3 501	2,640
38-39	3 196	2,250

The above table reveals that in All-India as well as in British India the same tendency has been felt as far as production is concerned. During the depression era there was a set-back in the Indian production. In 1929-30 the total output showed a net decline in production amounting to 29 per cent of 1928. But in the following year the production increased to 2,592 thousand tons. This increase was only temporary, for in 1931 there was a decline by 17 per cent of the previous year's figure. From 1932 the output began to increase till 1934 when a fall in production took place. Subsequent years saw an increased production which reached its maximum in 1937-38 recording 3 501 thousand tons. But in 1938-39 production began to fall.

GROUNDNUT

As regards British India, the same conditions existed. With a slight fall in 1931-32, the yield began to increase till 1934-35 when a great fall was recorded. This downward trend did not last long, for by 1935 production began to increase and touched its peak in 1937 amounting to 2,640 thousand tons. But the tendency to fall continued and 1938 figures amply prove this statement.

The Native States too are producers of groundnut. Though at first the Bombay States were producing negligible quantities, in recent years their production figures have risen to the level of Hyderabad. Prior to 1934 Mysore was producing a negligible quantity, but the 1938 figure proves that groundnut has come to stay in that State.

Besides the total output, we must see whether there is an increase or decrease in the yield per acre. A scrutiny of the table appended below will show how there was a tendency for higher yield in the pre-depression period.

Average yield per acre.

(In lbs.)

Year.	Yield per Acre.		
1919	1,161
1920	1,076
1921	1,002
1922	1,052
1923	867
1924	1,153
1925	1,127
1926	1,061
1927	..	.	1,122
1928	..	.	1,124

* Vide Appendix. Table VII.

PRODUCTION

The end of the War of 1914-18 saw an increase in the yield per acre. But in subsequent years there was a decrease which continued till 1922 when the yield per acre increased to 1,052 lbs. In 1923 the yield per acre decreased to 867 lbs. From 1924 the yield has been almost steady with slight fluctuations

The following table gives the yield per acre in lbs. for the years 1929-30 to 1938-39.

Year.	Yield per Acre in lbs.		
	Provinces.	Native States.	All-India.
1929-30	1020	577	943
30-31	1104	588	990
31-32	1044	669	948
32-33	1076	647	965
33-34	1052	688	941
34-35	888	512	758
35-36	1045	623	911
36-37	1021	666	912
37-38	950	726	883
38-39	927	706	848

From this table it will be seen that in 1930 the yield per acre for All-India, increased to 990 lbs. as compared to 943 lbs. in 1929. But in 1931 it showed a decline with a recovery in the following year. In the next two years a gradual fall was noticed which touched as low a figure as 758 lbs. in 1934. But during the years 1935 to 1937 there was an increase but subsequently there was again the downward trend.

As regards the Provinces, the yield per acre had at intervals its set-back as well as recovery. With an yield of 1,020 lbs in 1929, it increased to 1,104 lbs in 1930. Next year there was a fall followed by a rise in the subsequent year. The lowest yield per acre was noticed in 1934-35. As a general feature it can be observed that the rise and fall occur in alternate years.

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Though the yield per acre displayed a tendency to decrease in the Provinces, the Native States showed an increase. In Hyderabad the rate of yield rose at a rapid rate. In Mysore though the output was poor prior to 1933, it has improved since 1938.

(c) *Madras Presidency.*

Among the principal tracts that raise groundnut, Madras stands foremost. As figures prior to 1919 are incomplete and unsatisfactory, one has to start with the figures for the year 1919 as the basis for further comparison and study.

Total production in Thousand tons.

Year.			Total Output.
1919-20	..	..	569
20-21	..	..	740
21-22	..	..	678
22-23	..	..	823
23-24	..	..	744
24-25	..	..	948
25-26	..	..	1,264
26-27	..	..	1,207
27-28	..	..	1,671
28-29	..	..	1,830

With the cessation of hostilities in 1918, the groundnut production began to increase. The above table shows that in 1919, the production was 569,000 tons. Soon an upward trend was noticed and the figure touched its peak in 1923 contributing 823,000 tons. In the following year there was a decrease in production. From 1924, there was a phenomenal rise which lasted till 1928 when it reached its maximum of 1,830,000 tons

This prosperity did not last long for the depression era soon set in. In this period groundnut production was hit hard. The following table bears out the point.

PRODUCTION

Total production in Thousand tons.

Year.		Total Output
1929-30	.	1,522
30-31	..	1,765
31-32	..	1,234
32-33	.	1,729
33-34	..	1,777
34-35	..	920
35-36	..	1,202
36-37	.	1,657
37-38	..	2,059
38-39	..	1,613

In 1929-30 the production was low. But in subsequent years there was a rise followed by a fall in 1931-32. Though there was a trend towards increase in '32-34, there was a drop in '34-35. From 1935-36 production began to increase and it reached its maximum in 1937-38 with a setback in 1938-39.

Regarding the yield per acre, Madras has had no experience many vicissitudes, and this can be inferred from the following table.

Year		Yield per Acre in lbs
1919-20	..	1,114
20-21	..	1,036
21-22	..	1,041
22-23	..	1,051
23-24	..	922
24-25	..	1,115
25-26	..	1,089
26-27	..	1,009
27-28	..	1,122
28-29	..	1,114

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With a fall in 1920-21, an upward trend was noticed in subsequent years but a sudden drop occurred in 1923-24, recording as low as 922 lbs. per acre. In 1924-25 there was a recovery with a fall in 1925-26; and the revival which followed lasted till 1927-28 when it was 1,122 lbs. per acre; but in the following year the figure went down to 1,114 lbs. per acre.

When the depression set in, a fall in the yield per acre resulted.

Year.		Yield per Acre in lbs.	
1929-30	1,062
30-31	1,107
31-32	1,107
32-33	1,101
33-34	1,056
34-35	877
35-36	1,068
36-37	1,062
37-38	990
38-39	958

In the year 1929 there was a fall in the yield per acre compared with the previous year's figure. But in the following year it increased and remained constant for the subsequent years. But in 1934-35 the yield per acre fell to 877 lbs. In the following year a sudden rise was noticed which lasted till 1936. But there was a noticeable fall from 1938 onwards.

In South Arcot, the same tendencies prevailed. After the depression period an increase in the yield per acre was witnessed. This lasted till 1933, when a drop to 918 lbs was recorded. The following year saw an increase to 1,008 lbs per acre; but it did not last long, for in 1935 it fell to 986 lbs. The subsequent years showed a downward trend which went as low as 795 lbs. per acre in 1938. The following table gives the changes in the yield per acre.

PRODUCTION

Year.		Yield per acre in lbs.	
1930-31	974
31-32	997
32-33	997
33-34	918
34-35	1,008
35-36	986
36-37	918
38-39	795

SECTION IV

AGRICULTURAL RESEARCH AND GROUNDNUT CROP

Let us examine in this section the improvements suggested and carried out by the Agricultural Department. To ensure economic cultivation and enhance productivity new varieties have been introduced by the Agricultural Department. In order to carry out this purpose, a research station mainly intended for the promotion of cultivation in oil-seeds, has been started at Tindivanam. Recently the Imperial Council of Agricultural Research made a grant to this station to intensify the study of the problems connected with groundnut cultivation. The grant was to be spread over a period of five years. The new scheme began its work on 22nd January, 1937.

Let us now see the various experiments conducted by them in different spheres of groundnut cultivation. At first the question regarding the selection of a variety best suited to withstand drought, engaged their attention. Several trials were made and it was found that the bunch varieties were comparatively less resistant to drought than the spreading varieties.

Various bunch varieties were tried and the result was that the "Gudiyattam bunch" and "Small Japan" were found to be fairly resistant to drought while those with four seeded pods and red testa were badly affected. Among the spreading varieties, the "Virginia Runner" (A. H. 7) and "Local Pondicherry" (A. H. 72) were outstanding in their high degree of powers of resisting drought. A selection from "Bassi" (A. H. 477) was found to be well suited for dry areas.

Secondly, selections of the best variety in the bunch as well as the spreading types were tried, keeping a standard variety as control for each.

AGRICULTURAL RESEARCH AND GROUNDNUT CROP

Bunch Type

Treatments.	Adjusted yield per acre.	Percentage of general mean.
A.H. 32 (Control)	.. 95175.	94.2
A.H. 1320	.. 993	98.4
A.H. 1537	.. 1043	103.4
A.H. 1581	.. 1077	106.8
A.H. 1589	.. 1128	111.8
General mean	1009	100.0

Spreading

Treatment.	Calculated yield per acre in lb	Percentage of general mean.
A.H. 25 (Control)	.. 1249	107.0
A.H. 554	.. 1171	100.3
A.H. 718	.. 1179	100.9
A.H. 731	.. 1163	99.6
A.H. 678	.. 1222	104.6
General mean	.. 1168	100.0*

The foregoing analysis clearly shows that as regards the bunch variety, (A.H. 1581 and A.H. 1589) selections from "Tennessee White" and "Improved Spanish" respectively record a significant increase over the control. While in the spreading, the control, A.H. 25 "Saloom," shows a remarkable yield.

Experiments conducted to ascertain the preliminary yield per variety showed that A.H. 334, a selection from "Carolina," stood unique,

*Vide 'Report of the Madras Agricultural Research stations' 1938-39. 'Tindivanam Research Station Report'

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in that it gave a significant increase of 13·3 per cent over the improved variety (A. H. 25), which, in turn, showed an increase of 26·8 per cent over the local variety.

The effect of climate and soils on groundnuts was also studied and it was found that the selected varieties yielded more than the "local Mauritius." A. H. 477, a selection from "Bassi," gave the maximum increase of 50 per cent. The high degree of drought resistance coupled with its enhanced production will render it a suitable variety for tracts with low and precarious rainfall.

Regarding manure, experiments were conducted. It has been found that potash gives an increased yield. Nitrogen as Ammonium Sulphate affects the yield in the absence of the basal dressing.

Since the groundnut crop is raised as a mixed one with a cereal, workers in the field were engaged to find out a plausible mixture which will bring a higher net return when groundnut is cultivated as a mixed crop than when it is raised as a pure crop. As such, plots were laid out wherein pure as well as mixed cultivation were conducted and the results noted. Whether such mixed cultivation affected the quality of the pods produced, was also noted.

Treatment.		No. of kernels per lb.	Shelling percentage.
Pure		974	70·4
	+ Redgram ..	954	71·6
	„ + Castor ..	952	70·4
	„ + Thenai ..	967	70·1
	„ + Cotton ..	970	70·9
	„ + Cumbu ..	986	70·7
	„ + Cholam ..	970	71·6

From the above we can very easily conclude that mixed cultivation does not change qualitative characteristics.

AGRICULTURAL RESEARCH AND GROUNDNUT CROP

Profit as per Pure and Mixed Variety

		Net profit per acre	Duration of the crop.
Groundnut pure	..	Rs. 10 13 5	4½ months.
„	+ Cumbu ..	„ 0 14 1	„
„	+ Tenai ..	„ 6 10 0	„
„	+ Cholan ..	„ 21 3 10	5½ months.
„	+ Redgram.	„ 17 13 4	„
„	+ Castor ..	„ 24 4 3	8 months
„	+ Cotton .	„ 17 0 3	8 months.

From a purely monetary point of view, it is always advisable to grow the crop along with castor, since it brings a maximum return. Recently it has been said that mixed cultivation with castor affects the oil content of the groundnut seed. No substantial experimental evidence is, however, forthcoming.

The Order of Yield per Acre

Groundnut Pure	..	1036 lb. of pods.
„	+ Redgram	.. 975 „
„	+ Castor	.. 903 „
„	+ Tenai	.. 828 „
„	+ Cotton	.. 813 „
„	+ Cumbu	.. 721 „
„	+ Cholan	.. 580 „

To test the effect of electro-culture on the groundnut crop, an experiment was made in Tindivanam, with A.H. 32. Before scrutinising the results, let us see what electro-culture means and how it is applied to plant life.

Dr. S. S. Nehru, I.C.S., conceived the idea of harnessing electrical energy and utilising it for plants as a stimulant. He harnessed cosmo-radio-magnetic energy and applied it towards the growth of the plant. Its results are astounding and far-reaching. It has been more

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widely known and practised in Western and Far Eastern countries than in India, the land of its birth.

By electro-culture is meant the stimulation of the already existing electrical energy in the plant. Like other living organisms plants too are made up of cells. Each cell has its own nucleus surrounded by protoplasmic matter. As long as the cell pulsates with life, electrical energy resides in it. In other words, where there is cellular activity, there is electrical activity and *vice versa*. A rise or fall in the cellular activity results in a corresponding increase or decrease in the electrical energy. If there is an inducement in the form of an external stimulus to the electrical activity of the plant, it will automatically increase the growth of the cell and subsequently the whole plant to which the cell belongs. This is the basic idea underlying electro-culture.

Though electricity is a boon to humanity, its utilization in the vegetable kingdom in a simple manner is due to the undaunted perseverance of Dr. S. S. Nehru. Once costly machines were required to carry out the experiment, but Dr. Nehru has invented such simplified devices that they are within the reach of the poor Indian cultivator. The instruments are so cheap that the poorest villager can buy them, and so simple that the dullest head can operate them. They are to Dr. Nehru what the charka and the carding bow are to Mahatma Gandhi. The radio-magnetic energy from the earth will be transmitted to the active regions of the tree so that more flowers and fruits result and a general enhanced growth is found. To supplement this process, Dr. Nehru recommends the irrigation of the plant by Agaskarised water (sparked water). To give further stimulation the weakened tissues are occasionally subjected to sparking. Before seeds are sown they are soaked in Agaskarised water and then broadcast in the field with India rubber gloves covering the hands. This in brief is the out line of electro-culture and its application to plant life.

The results are said to be remarkable and outstanding. Discussing the desirability of its application and its results, Colonel Noel, the Director of Agriculture, North Western Frontier Province, observes :—

“A method of increasing the yield which is extraordinarily cheap, simple and effective is that of electro-culture advocated by Dr. Nehru, I.C.S., of Mainpuri. This treatment has given the astounding result of a 30% increase in yield. The cost is negligible.”

AGRICULTURAL RESEARCH AND GROUNDNUT CROP

To test the efficacy of electro-culture in the cultivation of groundnut, experimental plots were laid out in Tindivanam. Growth measurements were recorded at monthly intervals. The perusal of the figures showed, however, that growth was not accelerated and flower production remained normal. The experiments were then discontinued.

Pests and Diseases

Many are the pests and diseases which retard the growth of the plant. They are:—

1. The red-hairy caterpillar,
2. The surul poochi
3. Wilt,
- and 4. Clump.

(1) *The red-hairy caterpillar (Ansacta Albistriga)* —It is a familiar pest in most parts of South India. It is a common feature in red sandy soils soon after the rains. These caterpillars appear in such large numbers when the crops are young that wholesale destruction inevitably results. Usually, this pest attacks most of the rain-fed crops.

If the crops are young when this pest appears, there will be a total destruction; and a resowing of the crop may become necessary. But if the crops are somewhat older, the attack is partial. Flowers are easily susceptible to this attack and when attacked the plants flower again, but a substantial reduction in the total yield is certain.

Various measures have been suggested to ward off this pest. The following are a few. Hand-picking of the moths is one method. As the visitation continues in the same tract from year to year, the farmers can fairly know that the pest has not completely disappeared but lurks in the soil and reappears when the rain sets in. The first rains change the pupae of this caterpillar to moths which will be found sluggishly moving in the field. These moths can be easily distinguished by their white pigment and sluggish habits. Being sluggish, they can be easily picked. Each moth is capable of laying a 1,000 eggs; but efficient hand-picking will prevent their further occurrence.

It is not possible to collect all moths and some may have missed the workers' attention. So, as soon as the eggs are laid it is best that they are collected; for no sooner the eggs hatch than the caterpillars get scattered.

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One other means of warding off the pest is by the collection of pupae and their destruction. During the time of pupation, caterpillars resort to shady places such as the bases of trees or fences near by. With a little experience it will be easy to find them out.

As a further procedure, trenching can be undertaken. When the caterpillars emerge, they appear in legions. To destroy them by spraying disinfectants, is costly. As such, trenches are dug across the path of these caterpillars which march from the infested to the uninfested field. The caterpillars drop into the trenches and they are collected and destroyed.

Regarding the handpicking of moths, the expenditure usually comes to Rs. 2 per acre. "At the time of harvest, statistics of yield of cumbu and groundnut were taken in the area hand-picked as well as in the areas left untreated. There was an average yield of 256.4 Madras measures per acre in the case of pure cumbu fields and 161.5 Madras measures in the case of cumbu sown mixed with groundnut in the area treated, whereas the figures for the same class of crops in the untreated areas were 104.1 Madras measures and 80.1 Madras measures respectively; thus indicating a gain in money value of about Rs. 25 and Rs. 13½ per acre. As such the ryot can very well afford to spend Rs. 2 or more to prevent the loss."*

(2) *Surul Poochi* (*Stomopteryx Nerteria*) attack can be mitigated by the use of light-traps maintained in dark nights to catch the moths.

(3) *Wilt*:—This is a bacterial disease which attacks the plant and retards its growth. To thwart repeated attacks relative resistance experiments were conducted. Many were the selections tried. "The mortality due to wilt varied from 2.2% in A.H. "Virginia bunch Tanganyika" to 15.2% in A.H. "1722 Florida IV." The "Gudiyattam bunch" too showed an infection of 6.0% while the "Virginia running peanut" and the "Rangoon" variety recorded a high percentage of mortality."**

Manurial experiments in Tindivanam were carried out to mitigate this wilt attack. Potash was found to a certain extent a feasible antidote

*Vide "Dept. of Agriculture," Leaflet No. 23

**Vide "Report of the Agricultural Research Stations," 1938-39,

AGRICULTURAL RESEARCH AND GROUNDNUT CROP

to this disease. Experimental plots have been laid out at present to ascertain when the maximum mortality of the plant due to this disease occurs. The experiments may suggest ways to minimise the wilt attack.

(4) *Clump* is caused by fungus and is of the nature of a virus. It stunts the growth, and affects the production of flowers. The terminal buds get twisted and the leaves begin to curl inwards. This disease attacks the roots of the plant. Experimental measures are being tried to mitigate the disease.

Quality of the Groundnuts

The quality of groundnuts exported from Madras, is not valued by foreign importers on the ground that "Coromandel" variety contains more fatty acid than others. Since groundnut forms about 30% of the exports of Indian merchandise, the exported varieties should be improved in quality. "The Indian Trade Commissioner at London has estimated a loss of about 52 lakhs of rupees to Madras on account of the poor quality of groundnuts."

The poor quality of the nuts is due to the presence of a high percentage of free fatty acids. Both the oil and free fatty acid are inter-related. When the free fatty acid increases in the nut, the oil content simultaneously decreases. The cost of extracting oil increases when there is a higher percentage of free fatty acid content. The oil extracted from such nuts is further of a lower quality and hence it fetches a low price in the market.

Of the causes that contribute to the higher percentage of free fatty acids in "Coromandel" nuts, the first is that farmers, in order to avail themselves of the higher price prevailing in the market, begin harvesting before the nuts are mature. This pre-mature harvest causes the retention of a higher percentage of free fatty acids in the kernels. The harvest of groundnuts even one week before the kernels are fully ripe is said to double the quantity of free fatty acid and reduce the oil content of the kernels by about four per cent. In some places the nuts are harvested two or three weeks before they are fully mature. To minimize the period of growth, the bunch variety can be grown instead of the spreading type as the bunch variety takes lesser time to mature than the spreading one. Immature kernels when dried get

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shrivelled and contain less oil and more fatty acid unlike the mature kernels.

When the pods are shelled, they are wetted even when decorticated. Damping increases the fatty acid content and lowers the quality of the nuts.

"Assuming the price of groundnut kernels containing not more than 2.5 per cent of free fatty acids is Rs. 30 per candy of 531 lbs. and supposing that the Madras groundnut on reaching Europe is found to contain 4 per cent of free fatty acids, only Rs. 27 will be paid instead of Rs. 30, Rs. 3 being the discount on account of the extra 1.5 per cent of free fatty acids. If the produce contains 8 per cent free fatty acids, as is not very uncommon, the price to be paid will be Rs. 19 instead of Rs. 30."*

To improve the quality and reduce the free fatty acid content, the wetting which now precedes shelling should first be avoided. Without wetting the produce, decortication can be carried on as is done in Bombay and the Ceded Districts.

The deterioration in quality is also due to improper storage and insufficient drying. The harvested crop contains as much as twenty-five per cent of moisture and the buyers undervalue the product owing to the presence of moisture. Moreover, if the nuts are not properly dried soon after harvest, moulds begin to appear inside the kernels and increase the acidity. After the moulds have once appeared, it is difficult to remove them even after drying. So the produce should be well dried soon after harvest.

Again, the produce should be dried well so as to make the nuts brittle; then only it should be stored. Otherwise, when it is packed in gunnies and stored in godowns, it undergoes fermentation. When partially dried kernels are exported, they undergo fermentation in the ship's hold and when they reach the destination, a higher percentage of acidity will be noticed. Thus the producer, hand in hand with the exporter, should see that the produce is well dried before export in order to obtain a higher value for Indian groundnuts. It is also desirable to set up a separate trade for lower grades of nuts.

*Vide Dept. of Agriculture, Leaflet No. 83.

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(b) *Seed.*

The varieties that are prevalent in this district, are the bunch and the spreading varieties. South Arcot grows only the spreading type, while in the adjoining districts the bunch variety is used.

The local Mauritius (A.H. 1) is the common variety grown in this district. Commercially, it is known as "Coromandel" or "Mozambique". This is the type that has widely spread in this presidency. It belongs to the spreading type. With small pods having one to two seeds, the plant takes 130 days to mature. Unlike the improved variety the "Coromandel" is small with a rose coloured testa.

In the adjoining districts of Chingleput and North Arcot the bunch variety commonly known as the "Gudiyattam Bunch" (A. H. 32) is cultivated. It is otherwise known as "peanuts or khandeish," with a shorter maturing period, running to 100 days. Like the local Mauritius, the pods are small with one to two seeds. The kernels are light rose and plump.

The other cultivated variety is 'Small Japan' (A. H. 34) or commercially known as "Red Natal" or "Pollachi Red" or Lal Boria as it is called in Bombay. Belonging to the bunch type, it takes 105 days to mature. Though the pods are small, they are plumpy and contain two seeds of reddish colour. It is cultivated in the Pollachi taluk of the Coimbatore District.

Besides the cultivated varieties, new and improved varieties have been launched by the Agricultural Department after due trials in their farms. Among the improved varieties, A. H. 25 "Saloum" stands foremost. It has been taken from a mass selection of the West African variety. Its yield is 25% more than the local cultivated variety and is a good drought resistant. As such, it has taken hold in the southern districts of Madras Province and also the Ceded Districts. The pods of this type contain two and occasionally three seeds. The kernels are medium in size, rosy and somewhat plump. The duration of this plant's growth is 135 days.

Three selections from "Bassi" (A.H. 685, A. H. 678, A. H. 698) have been tested to find out the feasibility of their growth in this province. They have good resistance and stand well even severe drought. These selections are of the spreading varieties with occasional three seeded pods. The pods are very small with rounded tips unlike other types.

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which have beaks at one end. The kernels are small, rounded and rosy and not plumpy. Their yield is significantly higher than the local:—

A.H. 685	..	27.5%	over the local.
A.H. 678	..	26.2%	do. do.
A.H. 698	..	35.5%	do. do.

Analysis of Various Varieties.

(Rain-fed crop)

<i>Cultivated Variety</i>				
		A H. 1.	A.H. 32.	A.H. 34.
Average acre yield of pods. ..		1150lb.	1050lb.	800lb.
Shelling percentage ..		77	76	78
Oil content ..		49.8%	48.2%	49.5%
Number of kernels per lb. .		1250	1400	1156
Free fatty acid ..		1.22%	0.35%	0.40%

Analysis of Various Varieties

(Rain-fed crop.)

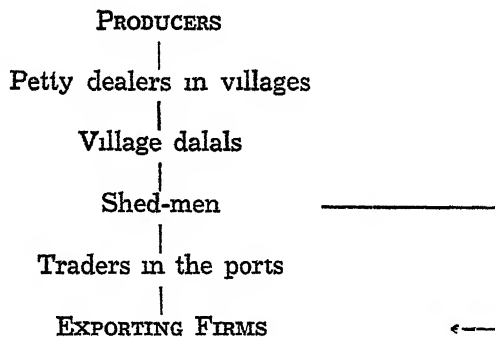
<i>Improved Variety</i>				
	A.H. 25	A.H. 685	A.H. 678	A.H. 698
Average acre yield of pods ..	1460lb.	1453	1578	1538
Shelling percentage	73	78.4	77	77.6
Oil content ..	50.4%	49.7	49.2%	49.8
Number of kernels per lb. ..	1025	1135	1111	1126
Free fatty acid ..	0.25%	1.39%	1.4%	3.36%

SECTION V

FROM THE CULTIVATOR TO THE EXPORTER

Groundnut is an important commercial crop of the South Arcot District and it occupies 25% of the total area harvested in each year. Since nearly 80% of the groundnut area is under rain-fed conditions, the vicissitudes of seasonal conditions make the crop a precarious one. The uncertainty of the crop very often becomes further aggravated by uncertain prices brought about by fluctuations in demand in the foreign countries which consume more than 70% of the local production. Like their brethren in the field, the groundnut producers in South Arcot are as a class poor. Largely on account of their need for money and partly on account of the pressure brought to bear on them by middlemen, the growers exhibit a great rush for sale in the harvest seasons. The produce changes hands many times before it is finally shipped to foreign countries from ports like Cuddalore and Pondicherry.

The chain of middle-men can be diagrammatically represented as follows:—



As soon as the harvest is over, many of the cultivators who are in general poor and have no means to convey their produce to market centres, sell it in their own villages. The village dealers buy the produce at rock bottom prices. Being in need of money owing to the several disbursements he has to make, the cultivator disposes of the produce at any price that is quoted by the village dealers.

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Besides the growers of the crop, the labourers in the villages too contribute their mite to the trade. As the labourers are paid in kind, they get their necessities by selling the nuts to the village dealers, who waylay them on their way home and induce the workers to part with their produce for ready cash. The prices offered are, however, so low that there is no relationship between such retail prices and the market rates. Further, the purchases are made in volume; and the measures used are so faulty as to deceive the poor labourers. Tempted by a few coins shown to him in the evening when the urge of the toddy shop is great, the poor labourer falls an easy prey to the greedy village merchant.

The village dealers thus securing enough of the crop, bring it to the market centres. On their way are situated the sheds of the buying traders who are known by the name of shedmen. The shedmen employ men to direct sellers to their sheds. The purchase of both shelled and unshelled nuts is undertaken. After decortication they transport the produce to the market centres. To ensure the even flow of the crop to their sheds, they advance loans to the nearby villagers who raise the crop. When the harvest season is over, the shedmen go to the villages and quicken the sales of the crop in order to buy it at a low price.

The practices of some of the shedmen in weighing the produce may be noted here. But many of the practices described below were in vogue before the inception of the market committee. After its inauguration, radical changes have not taken place; but it has checked to a certain extent fraudulent weighment.

When the villager brings his cart-load of goods, the shedmen offer high prices which at times will be above the rate prevalent in the market. Tempted by such high prices, the villager consents to dispose of his produce and it is taken out for weighment. Innumerable are the men employed to unload the cart and for weighment. The work is done so quickly that the seller finds it difficult to watch the proceedings. Sometimes the seller is given a generous offer of a few annas for meals, tiffin and *pan* and sent out when weighment is done. As all the growers are not illiterate, some of them insist upon weighment in their presence. When they insist on this, they are duped in a different way. In order to please them, the buyer weighs some of the bags with the stamped weight, and after the first bag is weighed, the stamped weight is taken away and the bag previously weighed, serves the purpose of

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weight for future weighment. When the other bags are weighed the buyer secretly places some big stone or weight by the side of the bag or even into it covering the top afterwards with groundnut. Thus for each weighment the seller is made to lose a great deal and in the end there is a great disparity between the weight calculated by the grower and the weight announced by the buyer. The seller is thus duped. Forced by circumstances, the grower sells the produce to the shedmen.

The shedmen decorticate the produce if it is unshelled and then send it to the market centres. Big traders who are contracting agents to the exporting firms, get into touch with the shedmen. The shedmen sell the produce to the traders as well as to the exporting firms for ready cash. The traders instead of being godown keepers are occasionally owners of oil presses as well as expellers. They deal in "katcha" as well as in "pucca" goods.

To keep up a continuous flow of produce, the traders advance loans to the village middlemen as well as to the growers of the produce. Being without sufficient capital, they borrow small amounts from sowcars and try to do a tremendous volume of business by selling to the exporters. To secure adequate capital, the local traders borrow sums at exorbitant rates of interest and the burden is transferred ultimately to the ryot. The need to repay loans within very short periods and the desire to make large profits, induce heavy selling pressure allowing little time for proper cleaning, drying and grading of the produce. The quality of the produce is thus allowed to deteriorate in the process.

The advancement of loans by traders to the ryots has shown a downward trend in recent times owing to the passing of the Agricultural Debt Relief Act, and to the starting of the Market Committees.

As soon as the produce enters the go-down, it is weighed and spread out in the sun for drying. "Chittals" (labourers) are engaged to pick out the blacks from the spread out produce at a wage rate of three pies per Madras measure. (A bag of groundnut is approximately equivalent to 75 Madras measures). When the black ones are picked, the rest of the produce undergoes processing and is then filled in bags and sold to the exporting firms. The black kernels are in demand by the local oil mills who by extracting an inferior groundnut oil mix it up with castor oil to be utilized as lubricant. This oil of inferior quality is also used by temples for lighting purposes. Traders in the interior of the district bring the produce to the port and deliver it to the exporting firms, F.O.R.

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It is regrettable that till recently such a great producing centre of groundnut as South Arcot had no traders' association. The emergence of the market committee opened new vistas. The traders of Cuddalore Old Town evinced a great interest in starting an association of their own to further their trade. A few educated people took the initiative and their labour was rewarded. On 26th September, 1940, the association was registered under the Societies' Registration Act 1860. The objects of the association are:—

1. To further the interests of the traders of the commercial crop in all branches of their activities and get adequate facilities for the efficient prosecution of the trade.
2. To hold meetings once in a month, wherein experts should be invited to deliver lectures regarding the groundnut trade.
3. To help the needy and the poor out of the fund set apart for charitable purposes and
4. To open free reading rooms for the public.

The association has done useful work in suggesting a revision of the existing contract forms and also the creation of a standard grade of seed.

Leaving the traders, we now meet the exporting firms to whom the traders sell the groundnut. In Cuddalore as well as Pondicherry, there are branches of three exporting firms. The following table shows the total quantities of groundnut exported from Cuddalore and Pondicherry from 1935 to 1938.

Statement Showing the Shipping of Kernels at the Ports (in Tons)

Year.		Total
(a) Cuddalore		
1935	..	68,147
1936	..	92,513
1937	..	104,291
1938	..	102,562
(b) Pondicherry		
1935	..	49,877
1936	..	63,658
1937		94,476
1938		53,590

FROM THE CULTIVATOR TO THE EXPORTER

The above table clearly shows the premier position occupied by Cuddalore in exporting groundnut to foreign countries.

The exporting firms buy only shelled nuts and buy them even if they are in the raw condition; but they quote prices for 'pucca' quality only. The "Katcha" nuts were in great demand when Marseilles was importing Indian groundnut. With the stopping of exports to Marseilles the exporting firms rarely go in for "Katcha" produce. These firms never advance loans like the contracting traders; instead, they enter into contracts with only those having good will. Moreover, in the interior of the district, the exporting firms have their own agents who get the produce and send it to the port.

With the exporting firms, transactions of three classes are entered into. They are:—

- (a) Forward contracts.
- (b) Unfixed contracts
- (c) Spot transactions.

By forward contract is meant a particular system of contract entered into by a middleman with an exporting firm, for the supply of a particular number of bags, either machine-shelled or hand-beaten, before a particular date and at a fixed rate which is accepted by both the seller and the exporting firm. This kind of contract is adopted when the price is not steady and it is usually the middlemen that enter into forward contracts with the exporting firms.

Besides this fixed contract, there is another system of contract called the "unfixed contract." They are not so common as the fixed contract, for they are used only when prices are shooting up. In the unfixed contract system the price alone is not fixed while other items are specifically stated in the form. The seller brings, say, a 1000 bags on a day to the exporting firm where he gets 80% of the price of the produce at the day's prevailing rate. The price for the whole lot is not fixed. Hoping that the future price will be favourable to him, the seller waits. If the price is rising, the firms, however, keep quiet. But when they find a fall in price, the buying firms have a right to call on the seller to recoup the difference. On a particular day, if the price suddenly rises, the seller asks the firm to fix up that day's price for his produce, the buying firm may tell him, "I have instructions to buy to-day only a thousand bags; as four other sellers wish to have prices fixed to-day. I can accept

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only a fifth of your quantity." The seller has to be satisfied. If the price goes down the next day, the seller stands to lose heavily. In Salem where this unfixed contract system prevailed, a time limit of 2 or 3 months was fixed. The seller was called on to fix the price at the end of the stipulated period. The clever sub-agent in many cases so manipulated prices as to keep them low and cause loss to the seller. Owing to the prevalence of this system, many families in South Arcot have met with utter ruin and poverty.

In the spot transaction, the produce, whether "Katcha" or "Pucca," when brought by shedmen or traders, is examined and weighed. The price is fixed after determining its quality. Such spot transactions are few in the case of the exporting firms and generally the contract system of buying is in vogue.

When the produce is brought, test weighment is done. Later, a refraction analysis is made for determining the quality, and the price is paid according to the quality. Soon after the refraction analysis, the produce is stored in a long go-down roofed usually with corrugated metal sheets. Since ventilation is necessary, enough space is left between the walls and the bags. The floor of the godown is spread with sand and on it a coir-mat is placed. As the produce is easily affected by change of weather, the groundnut crop is stored only in bags and not in bulk. If the storage is prolonged, the quality of the nuts deteriorates. After two months a kind of insect called the weevil affects the nuts, reducing them to powder. To combat effectively this insect, fumigation has been suggested; but this is very costly. Other methods of checking the insect are engaging the attention of the Entomologist.

On the shipping day a few bags are test weighed and sent on board. Before shipment the refraction analysis is again made in order to ascertain the quality of the produce shipped.

Before the war, the groundnut was exported to Continental ports like Antwerp, Rotterdam and Hamburg as well as to England. At present, owing to the closure of foreign markets, London alone is importing Indian groundnut.

For loading, unloading and other sundry work, labourers are recruited on a contract basis. From a survey it has been found that the following approximate wage rate prevails at Cuddalore,

FROM THE CULTIVATOR TO THE EXPORTER

Schedule of Wages

Unloading from wagons and stacking them in the go-down. (This includes test weight and sampling charge)	From Re. 1-0-0 to 0-12-0 per 100 bags (approximately).
Removing from the stack, pouring it out, drying, refilling the bags and stitching.	Rs 3-4-0 per 100 men.
Picking out the blacks from the nuts	3 to 4 pies per Madras measure.
Sieving	0-8-0 per 100 bags.
Weighing before shipment	Re. 1-4-0 per 100 bags

It has been observed that the middlemen take away the major portion of the growers' profit. Even in this war-time the grower loses heavily. This can be seen when we examine the course of prices from its progress from the village to the port. At present the only foreign market that consumes Indian groundnut is England; and the Food Ministry purchases it at £10 per ton, F.O.B. port. Deducting the incidental charges, one candy of 531 lbs. will give the ultimate seller Rs. 28. The following transactions clearly indicate the loss sustained by the grower.

“(About 520 Madras measures of unshelled kernel give about a candy of clean shelled nut.)

(1) The village dalal purchases from the growers for Rs. 10-8-0 per candy of 520 Madras measures.

(2) The town broker purchases for Rs. 12-8-0 from the village dalal and pays a cart hire of 0-8-0 giving No. 1 a profit of Re. 1 and allowing a rupee for driage.

(3) The town merchant purchases from the broker at Rs. 14-8-0 and allows a profit of Re. 1-8-0.

He decorticates the same and pays 0-12-0 as charges including weighing, etc, and sells the same to contracting merchants at about Rs. 16-8-0 and earns a profit of Re. 1-4-0.

(4) The contracting merchant sells to exporting firms at about Rs. 20 and incurs Railway and loading charges of about Rs. 2-4-0 and thus gets a profit Re. 1-4-0.

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(5) The exporting firm is to pay for gunnies, godown charges, interest and loading charges which may amount to about Rs. 2, but still he may gain about Rs. 8.

In the above chain of transactions, the producer gets Rs. 10-8-0 and the ultimate purchaser pays Rs. 30. The expenses of marketing comes to Rs. 5-8-0 for all the items shown above and a profit of Rs. 14 is shared by various middlemen. 125 per cent of what the producer gets for his labour, seed and other charges, goes to middlemen even in this war-time when there is glut in the market with a price lower than the normal.”*

To maximise the income of the grower and minimise the intrusion of the middlemen, co-operative marketing has been suggested. The inception of the marketing committee has to a great extent enabled the grower to get the maximum price for his produce. The poverty of the village growers proves an impediment in getting the just price for their produce. To efface the middlemen completely is not possible and their existence in the chain of marketing is not injurious if well regulated. Unless the marketing of the produce is done in co-operation with the Co-operative Department, the growers will find the same difficulty which faced them before the inauguration of the market committee. Credit facilities along with warehousing should be extended to the growers. The central problem in rural economy is the warehousing question. As such, the market committee should not only see that the growers get a fair price but also extend credit and go-down facilities to them with the help of the Co-operative Department.

*Vide “Marketing of Groundnut,” Madras Journal of Co-operation, March, 1941.

SECTION VI

CO-OPERATIVE MARKETING

In India the *laissez-faire* policy had a long lease of life even in marketing as it had in other spheres of economic activity. The present chaotic condition is the result of interaction of various socio-economic forces. In medieval days agriculture and cottage industries maintained an equilibrium which came to be upset at the emergence of modern industrialism. Though improved means of communication have brought access to the villages, their influence has not been great enough to make the village a well integrated system in the national economy. The village artisans who were enjoying patronage under the village organisation became bewildered at the onward march of industrialism. Agriculture came to be commercialized and the new methods in marketing practice went counter to traditional practices. Thus with no change in his mental or moral sphere, the farmer has come into contact with the world market. This condition has been aptly described by the Agricultural Commission as follows :—“His interests have in the main been left to the free play of economic forces, and they have suffered in the process. For he is an infinitely small unit as compared with distributors and consumers of his produce who, in their respective fields, become every year more highly organized and more strongly consolidated.” Thus it is observed that with no commensurate change, the farmer drifts from the medieval system of economy to the modern. Therefore it is of immediate necessity that we should evolve a system out of the nebulous rural marketing of old.

Since agriculture dominates Indian economic life, the importance of a rational system of marketing cannot be over-estimated. The farmer gets such a low income that it hardly suffices the daily necessities of his life. As such he has to fall a prey to indebtedness.

To relieve him from indebtedness and enable him to get a fair price for his produce, a perfect system of marketing is invaluable. Let us examine the implications of rural marketing. Firstly, difficulties in marketing stand in the way of production, for without adequate consumption continued production will jeopardise the economic equilibrium. Secondly, marketing

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and production should be so related that the maximum price should reach the hands of the producer. Unless the producer gets a fair price, there is no guarantee that he will produce the same goods. Thirdly, the absence of such correlation will restrict consumption. The more organized the market, the lower will be the price of the products and accordingly the greater the advantage to the consumers from a given money income. Fourthly, the present system of marketing involves a colossal waste to the country. Improved marketing will increase the total wealth of the country. Fifthly, the development of industries needs a regular supply of raw materials. If raw materials are not supplied regularly, industrial advancement will be hampered. Lastly, we find a disparity between the price the producer gets for his product and the prevailing rate in the market. This is the crux of the problem. The price the producer gets is low because the cost of services involved in the process of distribution is disproportionately high. To make this expenditure reasonable and to enable the primary producer to get the maximum share of the price which the ultimate consumer pays, is the main problem.

As a proper remedy presupposes careful diagnosis, a study of the chaotic condition of rural marketing is essential to any scheme of improvement.

The village producer suffers in marketing owing to the dislocation caused by the impact of modern industrialism on rural economy. His difficulties can be traced to three inter-connected factors. "The producer has to sell his produce at an unfavourable place, and at an unfavourable time for unfavourable terms of price." Place, time and terms are the three prime factors that contribute to the ills of the present marketing system.

The village producer generally disposes of a good part of his produce in his own village. He sells to the sowcar, the bania, the prosperous landlords or the agents of the wholesale merchants. Regarding linseed, for instance, it has been estimated that the All-India average of the percentage taken to the market for sale by cultivators themselves, is only 20% as against 40% of the produce sold by the landlords. The reason for such a procedure is his indebtedness. The cultivator usually mortgages his crop for the loan he has taken for raising the crop. As soon as the harvesting is over, the sale of the produce is made in the field itself. In cases where such pledges are not made, the pres-

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sure brought to bear upon the producer by the creditor sowcar is such that he is compelled to dispose of his produce on the threshing floor.

The second important factor which is responsible for village sales, is the lack of communication with the nearest market. Many of the villages lie far away from trunk roads and feeder roads are few. Even if there are feeder roads, they are so ill-kept that it will be risky to use them for transport. At times the producer has no carts to carry his produce to the market. In some places, soon after the harvest of one crop is over, the sowing operations for another crop are begun and the cultivator can ill spare the time to go to the market.

Even when a producer reaches the market after overcoming these disabilities before the produce is actually sold, he has to face, as the Report on the Marketing of Wheat observes, a host of unwelcome agents. "the Kacha arhatya, the Dalal, the Charhava who fills the scale pan, the the Arhatya's clerk, the Chaukidar, the sweeper and a horde of beggars of every description."

In these markets arbitrary deductions are made for religious and charitable purposes. The agents of the buyers draw out large quantities as sample. The sales are conducted by the agents of the buyer and the seller through code words which are not understood by the cultivator. Very often the actual settlement takes place outside the market, and if disputes arise over it, the buyer often wins.

The element of time is an essential factor as regards perishables, like vegetables and fresh fruits. To market them successfully, rapid communication is essential. Since the producers sell their produce as soon as the harvest is over, a glut in the market occurs. The prices fall, affecting the producer's money income. If the distribution of the produce is done judiciously, a fair price can be had for the producer. Thus the producer cannot do as long as he is weighed down by debts. As such, financial aid for the producer is an essential factor. One of the ways of improving the marketing facilities of the producer is by an organised system of co-operative marketing.

We have already noted that the producers prefer to dispose of their produce in the village rather than take it to the market owing to the existence of the innumerable middlemen. To eliminate the middlemen as far as possible and to secure a reasonable price for the produce, the co-operative method of marketing has been

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suggested. Mr. V. L. Mehta in submitting his memorandum to the Royal Commission on Agriculture has observed: "In the sphere of agricultural marketing it has been found that arbitrary imposts have occasionally been abolished, proper stocking of goods for better prices facilitated, and, especially in respect of the sale of cotton, the advantages of sale in wholesale markets and of proper prices for imported varieties secured. Co-operative supply agencies have conferred the benefits of proper weighments, purity of goods, and wholesale prices to those who deal with them." Co-operative marketing has developed business habits among agriculturists.

A co-operative sale society can easily eliminate the intermediaries and can have direct dealings with the motussil purchaser. Co-operation offers one of the best means through which the producer can get the full market price for his produce. Efficient Consumers' Societies will also effectively eradicate middlemen.

Only in the last decade, the Agricultural and Co-operative departments came to realise that through their co-ordinated effort rural marketing can be effectively organized so as to bring prosperity to rural India. Co-operative marketing has now made some headway in India. Burma led the way by inaugurating paddy sale societies, and Bombay, the Central Provinces and the United Provinces have followed her example.

Though there was a remarkable advancement as regards the sale of cotton in Bombay, the movement was not without difficulties. It had to face mismanagement, absence of hold on members and inadequate finance. So the Agricultural Commission put forth the strong plea for making it a powerful organisation to fight against vested interests. The Central Banking Enquiry Committee recommended that as far as finance was concerned the provincial governments should advance liberally to the co-operative banks at concessional rates of interest for the development of co-operative sale societies.

Besides cotton, other products like groundnut, gur, tobacco, chilly and arecanuts came to be dealt with by these sale societies. In the Madras Presidency, soon after the war of 1914-18 such sale societies came into existence. Some of them not only sold the produce on behalf of their members but also gave cultivation loans. The more important societies are "The Tirupur Cotton Sale Society," "The Kailpatti Sale

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Society, the Central Sale Society at Cuddalore and "The Tiruvannamalai Loan and Sale Society."

In this study of the marketing of groundnut, an account of the history of the *Central Sale Society at Cuddalore* and its activities may be of interest. To enable the ryot to get a fair price and to make marketing efficient, the Central Sale Society was registered on 22nd June, 1930. It began to function on the 11th October, 1935. The Society came under its jurisdiction the South Arcot District and the Udayarpaia-
jail area in the Trichy District. The membership of the Society is open to individuals as well as to Societies. With a paid up share capital of Rs. 1,60,000, the Society was allowed to borrow up to a maximum of five times the paid up share capital plus the reserve. The Society was managed by seven members elected by a general body. The members of the board were elected yearly.

The object of the Society was, firstly to advance loans on the pledge of produce; and in this work the Society was partially successful. Secondly, it had to arrange for the sale of the produce of members to the best advantage. This privilege was extended even to non-members. Thirdly, it was to act as the agent of the members in the matter of receiving for safe-custody in its godowns or elsewhere the produce pledged in the co-operative societies. This object was never put into practice.

In 1931, it was found that the marketing of groundnut was slowly declining; and endeavours were made to resuscitate the market. The Registrar of Co-operative Societies, assisted by the Director of Agriculture and the Assistant Director of Agriculture had an extensive tour of South Arcot to explore fresh avenues in order to prop up the market. As a result of this tour, the Central Sale Society was asked to open warehouses at Cuddalore Old Town, Tirukoilur and Vriddhachalam. Agricultural demonstrators were put in charge of the warehouses at Tirukoilur and Cuddalore Old Town while the Vriddhachalam warehouse came under the supervision of a Co-operative inspector. In January, 1938, at Villupuram, a warehouse which was already run by the Valavanur Sale Society was taken up by the Central Sale Society and a Supervisor was appointed to look after the business.*

* See Appendix. Table VIII.

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The Central Society engaged no middlemen. The ryots used to bring their produce direct to the Society. As soon as the groundnut laden cart arrived, information was sent to the members who were the usual buyers. The buyers sent their agents to inspect the produce and fix up the price, and the bid was done through secret ballot. The maximum price was availed of by the ryot.

As soon as the sale was effected, the purchase money was paid to the ryot less commission charged for handling. If a loan had been advanced it was deducted from the sale proceeds. Sometimes there might be delays of a few hours or a few days in obtaining the sale money causing some difficulties for the ryot, and the co-operative warehouses had no ready cash to help him. In Cuddalore the cash credit facility was allowed by the Central Co-operative Bank; but the warehouse officer could not take advantage of this facility. However, the purchasers here often were known to pay promptly.

In the Co-operative warehouses, besides the commission on sales neither go-down rent nor sundry charges are levied. The cooly charges are borne by the sellers. In the case of groundnuts there is no insurance charge levied as is invariably done in the case of cotton, but a commission of four to six annas per Candy is charged on the sales.

The weights used by these sale societies are standard weights and a candy is equivalent to 531 lbs. The produce is not graded or standardized before selling but it is sold outright.

In order to help the ryots to obtain a fair price, godown facilities are given; but the storage facility is not adequate for stocking large quantities.

The Co-operative Department launched a controlled credit system so as to aid cultivation which the Government also support through Takkavi loans. The ryots, however, usually spend beyond their means, and continue to be in debt. Any aid co-operative Societies give the ryots would be useful only if the Societies can help in its proper utilization.

To make co-operative marketing popular with the ryots and to induce them to sell their produce through the sale societies, the agricultural demonstrators along with a special non-credit inspector made extensive propaganda in the district. But soon they were withdrawn

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as a measure of retrenchment. With the bringing into force of the amended Madras Commercial Produce Marketing Act in South Arcot and the opening of market yards at Villupuram, Vriddhachalam, Tirukoilur and Cuddalore Old Town, the usefulness of the Sale Society slowly and steadily began to diminish, with the result that it is now under liquidation.

To fetch a fair price and eradicate the existence of middlemen it has been observed by well-known co-operators that the sale society should buy the produce outright and pay sufficient advance to the ryots, and adjust the same as soon as the produce is sold at the port.

SECTION VII

REGULATED MARKETS IN INDIA

Regulated markets in India were in existence as early as 1897 when the Berar Cotton and Grain Markets Law was passed. This law was promulgated by the Government of India for the "Hyderabad Assigned Districts" as Berar was then officially called. Moreover, the Municipal Act of 1903 of the Central Provinces empowered the municipalities to inspect and regulate the markets. Yet their progress was slow. When the Agricultural Commission investigated about marketing, there were regulated markets only in C. P. and Bombay. After a thorough investigation the Commission arrived at certain conclusions which should be studied before we proceed further.

As the Berar Law as well as the Bombay Act confined themselves to cotton alone, the Commission saw no justification to confine the Acts to cotton only but recommended that products other than cotton should also come into the orbit of the law.

Secondly, the municipalities and district boards should be kept out of the management of these markets. If a regulated market is under the jurisdiction of the local boards, the influence of vested interests would stand in the way of fulfilling the higher objects for which the market has been created. They will look only for revenue and erect market yards within the municipal limits without considering the difficulties of communication. As such, separate provincial legislation should be passed for establishing regulated markets.

Instead of leaving the initiative in the hands of local bodies, the provincial governments should launch a policy of starting markets and meet the initial costs.

Wherever there are markets controlled by the local boards, they should automatically cease to function when the regulated markets come into existence. To make up the loss sustained by local boards by such a closure of markets, they should be compensated by an annual contribution to be made by the regulated markets.

Regarding the composition of the market committees, it was recommended that the members should be elected by the farmers and traders and it was necessary to protect the interests of the growers, a farmer with no agricultural department could be included. It was also suggested that it should be prohibited to start any other business of the growers outside the market and the committee should be empowered to elect a chairman and vice-chairman. The committee should also have a secretary and a clerk. There should be a representative of the board.

The market committees should see that the members are well informed about the market and the conditions. Besides, as the Commission suggested, the market should be strictly discouraged from acting as a place for the sale of goods. In such cases, the broker had the right to refuse to do business with the broker.

Lastly, the Agricultural Commission advocated storage accommodation and desired to utilize such markets for purposes of propaganda in favour of agricultural improvements and similar.

The foregoing recommendations of the Commission had their assured effect. In the wake of such recommendations new acts came to be promulgated in various provinces. A brief survey of the regulated markets which came into existence in the last years of the third decade of this century is given below.

REGULATED MARKETS

As already mentioned, markets are of two types under two categories, viz., regulated markets and markets controlled by local boards. Under the C. P. Municipal Act, several markets are being run, of which Raipur, Drug and Nagpur are noteworthy. The market at Raipur has been from its inception controlled by the Municipality through its executive committee. No storage rent is charged for the first three days after which one anna per bag is levied. The chief commodity that is dealt in the market is rice. The market superintendent is the *de facto* executive head of the market. Disputes arising in the market are settled by him. But when no settlement is arrived at, a separate tribunal is created. Even when the tribunal fails, the executive committee settles the case.

All the operations in the market are either registered or licensed. The Dealers, measurers and coolies get registered and charges are levied

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for handling. No octroi is charged for the sale effected in the market yard.

The Dalal serves as the intermediary in settling the transactions between the buyer and seller. All these transactions are entered in his book and finally scrutinized by the Market Superintendent to ascertain that the seller and the buyer are agreed about the price at which the produce is sold. "As soon as the agreement is reached the Dalal deposits Rs. 5/- per cart as earnest money on behalf of the buyer."

In the Drug market, methods of transacting business and of settling disputes differ from the Raipur market. As soon as the seller arrives at the market, he gets a receipt which he sticks into the spread-out produce. The buyers arrive on the scene and fix up the price. The name of the highest bidder is entered in the receipt book before the market superintendent. Then the auction takes place and the final settlement is arrived at. The name of the buyer is entered in the book and the earnest money is deposited on the spot. Disputes arising out of it are settled by a committee deputed by the municipality and if it fails, the President of the Municipality hears the case. Ordinarily disputes are settled within a day.

The markets operating under the C. P. Cotton Markets Act of 1932 deal only in cotton. The markets at Amraoti and Akola stand out in bold relief as regulated markets. The Amraoti market was started as early as 1872 under the control of the Municipal Board. Though it was conducted well, it did not form a well regulated market until the passage of the Act of 1897. Soon a committee was formed to look after the control of the market. Since the new market superseded the local board market, a financial agreement was arrived at by which the new market consented to pay the surplus revenue to the local body. The committee had five members, two of which were nominated by the Municipal board while the rest were the representatives of the traders in the locality. In 1932 when the Act of 1897 was amended the committee was expanded as follows. Out of the eleven members, four were elected by local traders, four by the cotton growers of the taluk, one was nominated by the Municipality and one was the representative of the local co-operative societies. The committee is empowered to elect its own chairman. Election of the members is to be done once in three years. The management and control of the market are vested with the market committee which in its turn is placed under the supervision and control of the

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district officers. The Commissioner of the division is the final administrative authority.

The market yard has a good library with a radio for receiving news. The market committee which is solely responsible for the control of the market has four sub-committees which respectively deal with disputes and public works and the checking of scales and weights. There is a permanent staff at the head of which is the superintendent who superintends the work in the market yard.

Buyers, dalals, and weighmen are all registered and licensed by the committee and have to pay an annual fee of Rs 100 -, Rs 60' - and Rs 5 - respectively. The market charges are clearly defined and include Re 1 - per cart for dalal, 0-1-6 ps per cart for weighing and an anna per cart as market cess. In addition to these, the buyer pays Rs 2-6 per cart as handling charges. The dalals usually pay 0-1-0 per cart for the local Dharmasala fund. Though the carts have free entrance to the market yard, a terminal tax of 0-15-0 per bale of lint is levied by the Municipality on all outward traffic either by rail or road."

Even though the amended act is a definite improvement on the former one, in the case of disputes it lacks rigorous enforcement. Usually the final settlement takes place outside the market yard when deductions are made by the buyer. The seller has no other recourse than to abide by it. Though the market committee has full legal powers to put an end to such transactions it confines itself to collecting the cess due to it.

Like the Amraoti market the Akola market was also re-organised in 1932. Its organisation and management are similar to that of Amraoti. One cardinal feature in it is that it prohibits brokers to act both for seller and buyer.

In 1935, an act concerning all agricultural produce was passed. It was amended in 1937. According to this even the marketing of all agricultural produce except cotton comes under its purview. The market committee is constituted as follows. It has ten members of which five are elected by the agriculturists, one is the servant of the Crown of not less than the rank of a Naib Tahsildar, one nominated by the District Board, one by the Municipality and the rest are from the ranks of the traders. The management and control are similar to those of the cotton markets.

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Bombay

In Bombay, an act was passed in 1927, which was subsequently amended in 1933; and its purpose was to regulate the sale in the cotton markets. According to this act, a market yard was opened at Dhulia in 1930. The market committee which is responsible for the control of the market has fourteen members including seven representatives of the growers, four of the local traders and one each of the Agricultural Department, the District Board and the Municipality. As in C.P., the market committee is controlled and supervised by the district revenue officers. Disputes arising out of the transaction are finally settled by a sub-committee, if the superintendent fails to arrive at a settlement in the first instance.

Buyers, dalals and weighmen are licence holders paying an annual fee of Rs. 10/-, Rs. 30,- and Rs. 5/- respectively. After the organisation of the regulated markets the market charges have decreased.

The prevalent market rates in Bombay, America and Liverpool are received by telegrams and are notified in the market yard. Though settling prices under cover is even now in practice, malpractice in scales and weights has been efficiently put an end to.

The Bailhongal market, though similar in constitution to the Dhulia market, differs in certain respects. Firstly, the produce is put into open auction and the final weighment and settlement of prices are done in the market yard. This effectively minimises disputes. No trader is allowed to transact without a licence within a radius of ten miles from the town of Bailhongal.

Madras

The object of the Madras Commercial Crops Market Act of 1933 with its amendment in 1939, is to secure the better regulation of buying and selling of commercial crops (cotton, groundnut and tobacco) and to establish markets for this purpose in the presidency. The act is administered through the Collector of the district. At first the notified area was Tiruppur, and later, South Arcot came under its purview.

Let us first briefly relate its working at Tiruppur and study in detail its operation in the South Arcot District in the next section. The Tiruppur market was first owned by the Municipality. In 1936, it came

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under the regulated markets list with twelve members of which five are elected by the cotton growers, four elected by the licencees functioning in the market, one is nominated by the local board and the rest are the nominees of the Crown. The life of the committee is three years. The market is a decentralized unit, but the Government want to make it a centralized one in course of time.

The Market Committee elects its own chairman and carries on its functions through five sub-committees. As regards the staff, a novel departure has been made in appointing as secretary a senior Agricultural Demonstrator, in order to stabilize the market and ensure its efficiency in its initial stages.

The secretary of the committee receives information daily regarding the prevailing rates in Bombay, Liverpool, and New York, and notifies it duly. Since the market has no yard of its own, carts are directed to the gineries where licensed weighmen weigh the produce.

The charges are as follows:—

(a) Brokerage 0-6-0 per candy of 784 lbs. of Kapas or 0-12-0 per candy of lint.

(b) Market cess of 0-4-0 per candy of 784 lbs. of lint and 0-3-0 per candy of Kapas.

If the seller fails to deliver the produce at the premises of the buyer, the seller has to pay an additional charge of 0-6-0 per candy.

Thus a market fund is created from the licence fees, market fees and other miscellaneous receipts. The total income during the two years 1936 and 1937 amounted roughly to Rs. 25,000; and nearly half of this was expended

Hyderabad

Unlike Bombay and Madras, Hyderabad deals in all agricultural commodities. This is a definite improvement, for the dealers can make up the loss sustained in the controlled commodity by widening their profit margin on commodities which are not controlled. A marketing section has been formed and the marketing officer is responsible for the administration of the Act. Already ten markets are operating under this Act.

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The Raichur market which was constituted in 1339 Fasli, was first confined to the main bazar with a market cess of 0-1-0 per cart. Later the limits of the market area were extended to ten miles around the collectorate of Raichur. Though there was bitter opposition in the initial stages, later it came to stay through the patient and tactful propaganda of the Collector. The market is managed by a committee of twelve members, six of them being representatives of the growers, four from the rank of the traders, one from the local Municipal Board and another nominated by the Government. The board has to be reconstituted once in two years. To compensate the Municipality for the loss sustained by it by the creation of the regulated market, half the revenue is paid to the Municipality.

Though a sub-committee is in charge of the administration of the market, in reality it is the superintendent who looks after it. Licence fees are levied on the brokers, weighmen and measurers. Market charges payable by the seller and the buyer are specified. A special committee has been appointed to collect funds for charitable institutions. The terminal tax levied is 0-4-0 per cart entering the municipal area.

The Warangal market closely resembles the Raichur market, and in the first instance, even this market had to face opposition; but gradually it was overcome by the tactful work of the Collector.

Punjab

The Punjab Agricultural Produce Markets Act was passed in 1939. The Act includes all agricultural produce, viz., cotton, wheat, barley, rice, oil-seeds, maize, gram, sugarcane (gur and shakkar). The Act regards those who actually raise the crop as growers and excludes from its range brokers or dealers who dispose of the produce. Licence fees have been fixed with a maximum limit at Rs. 10.

The market has to be controlled by a market committee of not more than sixteen members, two of whom are to be nominated by the Government and the rest to represent the growers and the licence holders in the proportion of two to one. The weighmen, dalals and measurers should take out licences. The life of the committee is three years.

North-Western Frontier Province

The Agricultural Produce Markets Act was passed in 1939 and it received the assent of the Governor-General on the 16th August of the

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same year. Unlike other provinces it includes all produce of agriculture or horticulture, animals and their hides, skins and wool and any article of food or drink wholly or partially manufactured from agricultural produce. Here, the dealer and the broker, even though they may raise the produce, are excluded from the list of the growers of agricultural produce.

For every notified area, a market committee has been constituted with not less than ten and not more than sixteen members. Half the number are elected by the growers while the Government, the District Board and the Municipality each send one member. The rest have to be elected by the traders of the notified area.

The act makes every committee a corporate body with legal existence. Moreover, it prohibits the brokers from acting in any transaction on behalf of both the buyer and seller.

The market committees are allowed to have a fund created from the collection of licence fees, market cess and other miscellaneous items and permitted to defray their expenses from that corpus.

No trade allowance except the specified charges are allowed to be collected in the market, and private markets are prohibited to transact business in the notified area.

The above acts owe their existence to the deliberations conducted in 1938 at a Conference in Delhi of the Central Marketing Staff and of the senior marketing officers in Indian provinces and states. In this conference a model bill was drafted for the regulation of markets. Following the model of this bill, Punjab, North-Western Frontier Province, Bengal, Mysore and Travancore passed Acts suited to local conditions. The Bombay Act was amended to include crops other than cotton. The emergence of the regulated market is a new augury for the betterment of the masses and the rural prosperity of the land.

SECTION VIII

MADRAS COMMERCIAL PRODUCE MARKET ACT—ITS WORKING IN SOUTH ARCOT

The South Arcot District was declared a notified area under Section 4 (1) of the Madras Commercial Markets Act 1933, from 1st April, 1939. Accordingly, a Market Committee was constituted under the caption "South Arcot Groundnut Market Committee." The members of the first committee were nominated by the Government. As the Secretary of the Committee, a subordinate of the Agricultural Department was drafted in after a few weeks training in the Tiruppur Cotton Market Committee. Six superintendents of the market yards were also recruited from the Agricultural Department.

As soon as the Committee was formed, the framing of the bye-laws engaged their attention. At first the bye-laws were modelled after the Tiruppur Cotton Market Committee bye-laws. But later they were recast in the light of experience. The object of the bye-laws is to regulate the business in groundnut and conditions of trading.

The Market Committee has as its head the Chairman who convenes meetings which are held in the office of the committee once in two months. On the requisition of half of the members of the committee, a meeting can be convened. When urgent matters await the consideration of the committee, the papers relating to them are circulated among the members for perusal and opinion. The quorum in the case of the committee meeting is four.

The Market Committee consists of two sub-committees. They are:—

- (a) Executive sub-committee,
- (b) The Disputes sub-committee.

The Secretary of the Market Committee is the secretary of both the committees; and the chief executive officer convenes the meetings.

The Executive Committee is composed of four members, and these are:

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- (a) The Chairman,
- (b) One elected from the ranks of the traders,
- (c) One of the representatives of the growers and
- (d) One nominated by the Committee.

These members are from among the members of the Market Committee. The Chairman of the Market Committee *ipso facto* becomes the chairman of the sub-committee. The quorum for each meeting is three.

The functions of the committee are to prepare the annual budget and suggest constructive programmes for the furtherance of the committee. It is their duty to see that the collection and dissemination of market intelligence are done efficiently. Any member of the committee can hear complaints regarding marketing practices and can bring the fact to the notice of the committee.

This committee met four times in 1939-40 and prescribed the forms as per the bye-laws and revised the bye-laws in the wake of experience.

As regards the Disputes sub-committee, it is composed of four members who are drafted in as follows:—

- (1) One of the nominated members of the committee who acts as the chairman of the committee,
- (2) One of the persons from the growers of the commercial crops on the committee,
- (3) One of the members representing the traders of the commercial crop in the committee and
- (4) One of the representatives of the local body not being the chairman of the committee. If there is no other member from the local body, some other member of the committee is appointed.

The committee is intended to settle disputes, and the sub-committee appoints in each market yard a panel of not less than 12 but not more than 24 persons. Every person included is expected to have a knowledge of the trade.

When a dispute arises, the parties report it to the Secretary with the prescribed fee. Each party elects one arbitrator from the panel constituted by the sub-committee. When the arbitrators fail to arrive at a settlement, an umpire is appointed who is also chosen from the same

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panel. As a final appellate tribunal there is the Disputes sub-committee whose decision is final. Every session of the sub-committee is presided over by the chairman and in his absence by a member chosen from the members of the sub-committee. At least three members are required for the quorum. The sub-committee records the disputes that come before them. Though this sub-committee was ushered in, as there were no disputes in 1939-40, it had no occasion to meet.

To start with, the South Arcot Groundnut Market Committee got a loan amounting to Rs. 7,700 from the local government. "The total revenues of the committee during the year 1939-40 amounted to Rs. 71,294-7-6 of which Rs. 40,016-6-10 has been spent and a sum of Rs. 3,105 has been deposited with the Government. The committee received also a sum of Rs. 1,174 as deposits chiefly from weighmen for the badges supplied to them, and out of the deposits a sum of Rs. 7 has been refunded. The net assets of the Committee on 31-3-'40 are estimated as Rs. 38,245-0-8."*

The most important feature of the committee is the provision of central places for marketing. With the sanction of the Government five market yards were opened in important centres of the District. The five market yards are as follows:—

<i>Name.</i>	<i>Date of opening.</i>
Tindivanam	.. 12-12-1939
Vriddhachalam	.. 25-1-1940
Tirukoilur	.. 29-1-1940
Ulundurpet	. 9-2-1940
Cuddalore	.. 3-3-1940

They began to work at the fag end of the season and as such the transactions were not on a large scale. As regards the transaction from the date of their inception to the last day of March 1940, a table is appended herewith **

*Vide South Arcot Groundnut Market Committee Report for 1939-40, pp 4-5.

** Vide South Arcot Groundnut Market Committee Report, 1939-40, p. 12

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Market Centres.	Estimated arrivals in the market centre (Tons)	Arrivals in the market yard during the corresponding period. (Tons)	Percentage of the Quantity in column 2
	(1)	(2)	(3)
Tindivanam	4505.8	208.6	4.5
Vriddachalam	776.6	67.4	9.0
Tirukoilur	1152.1	57.7	5.1
Ulundurpet	506.4	142.2	28.0
Cuddalore	265.9	64.3	24.0

Unlike other market yards, in Ulundurpet a major portion of the produce is sold through the market yard; for the yard is within the easy reach of the growers. In other centres, as the season is over only petty traders bring their produce for disposal. Moreover, the carts have to pass the buying sheds of the traders and hence get intercepted on the way. In order to carry out marketing efficiently as in the Dhulia market, the committee has proposed to expand the space in the yard and prohibit buying and selling outside the market yard.

As these market yards are not always within the reach of the traders, provision has been made in the Act to have licenced premises to carry out transactions. The fees per year for the licence are on the scale noted below:—

*Class (i)	For each single premises	..	Rs. 10
(ii)	For every additional premises	.	Rs. 5
(iii)	For each shop in villages where groundnut is bought and sold in retail as a side line to other business	.	Rs. 2

*Vide South Arcot Groundnut Market Committee Bye-law 11 (a).

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The maximum fee leviable has been fixed at Rs. 25. For amendments in the licence an additional fee of Rs. 5 is charged while the owner of the country chcklu is exempted altogether from the levy.

The licence form is always displayed well at a prominent place in the licencees' premises. Each copy of it costs one anna and if subsequent copies are required, the licensee has to pay four annes. It contains the following details :

- (a) The name of the licensee,
- (b) Licence number,
- (c) The maximum fees payable according to the bye-laws to brokers, commission agents, etc., and
- (d) Such other information as may be directed by the chairman from time to time

During the year 1939-'40, 430 licences were issued for 712 premises. Many were the small premises without licence that carried on trade in remote villages beyond the reach of the Committee's officials. Though Rs. 25 was first fixed for a licence, it came to be reduced owing to the poverty of the traders.

The licencees engage assistants or agents to look after their work. They are required to have in possession authorization cards from the licencees with the endorsement of the committee. The weights and scales are scrutinized well and only certified weights are allowed to be used in the premises. When processing is carried on in these premises any method which will adversely affect the quality is prohibited. The licencees keep accounts which are submitted to the committee for scrutiny.

With the enforcement of the Act, trading in groundnut, whether buying or selling or both, requires registration in the market committee. By such registration the committee keeps in touch with every trader and closely watches his activities. For the levy of fees the traders are classified as follows :—

A Class—Traders with one or more partners and those registering as corporate bodies.

B Class—Traders registered as individuals employing four or more authorized agents or assistants.

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C Class—Traders registered as individuals employing less than four authorized agents or assistants.

D Class—Individuals who do not employ any authorized assistants or agents and village shop keepers licensed under class (iii) of bye-law 11.

Since there are different classes of traders, the fees for registration vary They are as shown below:—

			Fees	
			Half-year	Year
			Rs.	Rs.
1. Buyer and seller—Class A	.		12½	24
„ B	..		9	16
„ C	..		6	10
„ D	..		1	2
2. Buyer alone —Class A	.		8	15
„ B	.		6	10
„ C	..		4	6
3. Seller alone —Class A	.		8	15
„ B	.		6	10
„ C	.		4	6*

People who buy groundnuts either raw or processed are exempted from registering if the quantity bought does not exceed 7,000 lbs. in the course of the year. People who buy groundnut for seeds are also exempted from the purview of the bye-law.

The registered traders have to keep daily accounts a statement of which they should submit before 6 p.m. of the next day. Traders whose premises are beyond a five miles radius of the market yard are asked to submit only weekly returns. When the produce is examined by the buyers a rate is fixed which is recorded in the prescribed form kept by the committee. When once the rate is fixed, it is binding on both the parties. As soon as the price is fixed, the weighment is done. If by some unavoidable delay the weighment is not done on the day when the transaction is carried it is postponed to the next day while the original rate prevails. Even if the transaction is made through the agents of the parties, the

*Vide *Ibid*, Bye-law. 13

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rate once fixed prevails throughout till the transaction is over. Weighment is not done after sun-set except with the written consent of the seller.

The traders usually have agents to transact business on their behalf. They carry along with them authorization cards issued by their masters and countersigned by the Secretary of the committee. Whenever the trader registers himself, he submits a list of agents or assistants under him. For the subsequent inclusion of names in the list, the committee levies a fee of annas four. The agent of the seller is not allowed to purchase the produce in his own name or in partnership with some others except with the written consent of the seller in the prescribed form. The commission on this transaction is fixed at 0-1-6 pies per bag in the case of kernels and 0-3-0 in the case of pods.

By the introduction of such rules, the seller is safeguarded. Before the advent of the committee, the buyer used to deduct as commission $1\frac{1}{2}$ annas to 4 annas per candy of groundnut bought. Besides, a deduction as weighment and handling charges varying from 1 anna to two annas was made. Brokers and buyers used to take free samples. Moreover, allowances for dirt were made. The price fixed was not always paid. Irregularities in weighing were not uncommon.

With the enforcement of the rules, the legitimate commission alone is allowed and that too has been reduced to nearly 50 per cent. Deduction regarding handling and weighment charges, has been put an end to. Now the samples are returned to the seller, and once the price is fixed, it never changes. Allowances for dirt have been now discontinued. Trade allowance of one pie per bag, which used to be collected, has been prohibited. Weighment irregularities have been stopped by a careful scrutiny of the weights and scale.

During the year 1939-40, the number of traders registered are as follows:—

Buyers and sellers—Whole year	..	153
Buyers and sellers—Short periods	..	764
Buyers alone	..	100
Sellers alone	..	44
		<hr/>
		1061*
		<hr/>

*Vide South Arcot Groundnut Market Committee Report, 1939-40, p 16,

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However, in villages petty traders to evade registration pass off as growers.

The brokers, whether they deal in pods or kernels, have to pay as licence fee Rs. 10 per year and Rs. 6 per half year. Their duties are that they have to enter in a bound note book provided by the committee, "the weights of pods or kernels from the seller's copy of the entries in the weighmen's chitta together with the rate and amount of money paid for the groundnut." They have to furnish weekly returns on each Monday in the prescribed form recording the quantity of groundnut purchased by each buyer and the name of the weighman. The maximum brokerage allowed is six pies per bag of kernels or two pies per bag of pods. On receipt of brokerage, they issue a receipt for the amount received. The South Arcot District has very few brokers. In 1939-40 only 18 got licensed.

The rules framed under the Act make the weighman independent of both the buyer and the seller. Weighment is allowed to take place in the licensed premises if it has to be performed outside the market yard. Only licensed weighmen who wear the distinguishing badge are allowed to weigh. They pay a licence fee of Rs. 6 per year. For shorter periods too the licence is issued. For example the weighman can get licence for a week on payment of eight annas or for one month if he pays a rupee. Free licences are issued by the committee for those who work in the market yards under the supervision of the committee and for weighmen employed in the Government depots of the Agricultural Department.

The weighman correctly weighs the produce brought to him and enters it in the register supplied to him by the committee for a nominal price fixed from time to time. His entry is endorsed by the buyer; and a copy of the entry signed by the buyer is also given to the seller. Weighmen employed by the registered trader demand no fee for weighment while others are allowed to charge up to 5 pies per bag of kernels or two pies per bag of pods. In order to receive the distinguishing badge, the weighman pays Rs. 2, which is refunded when the badge is returned. In 1939-40 nearly 592 weighmen took licences, but many escaped the vigilant eye of the committee.

Besides licensing the traders and regulating the weighment, the committee imposes a levy of six pies per bag of kernels and two pies per

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bag of pods taken from the notified area to a place outside it, consumed locally or landed in the notified area and exported subsequently. The levy is imposed on him from whose premises the groundnut has left. When permits are required often, the licensee gets the necessary permits after furnishing adequate guarantee to the committee. If evasion is found out, the person from whose premises the produce has left is asked to pay. When the groundnut produce is transported through a non-notified area to another without being landed in the notified area, it is exempted from such a levy. In cases of doubt, the levy is first collected and later returned on proof of through transport. When oil-mills, rotaries, presses and expellers consume groundnut, the levy is made in the first week of every month which is based on the consumption of groundnut of the preceding month. But chekku owners are exempted from such a levy and also persons who buy ten seers shelled or fifteen seers unshelled groundnut per day.

No trade allowance except tare is allowed on all spot or ready transactions in groundnut. It is 2 lbs. for each single gunny or the actual weight of the gunny or of the packing material used

We have already seen the constitution of the Disputes sub-committee and now let us consider the fees paid for such arbitration. The fees are charged on the basis of the quantity involved in the dispute and the rate of the fees is as follows:—

(a) For pods* :—	Rs.
(1) Less than 5 bags, free	
(2) Exceeding 5 bags but not exceeding 50	1
(3) Exceeding 50 bags but not exceeding 500	3
(4) Exceeding 500 but not exceeding 1,000	4
(5) Exceeding 1000 bags but not exceeding	5 plus
annas two for every 100 bags or part thereof in excess of 1000 bags.	

*Vide South Arcot Groundnut Market Committee Bye-law, No. 23.

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(b) For kernels:—	Rs.
(1) Not exceeding 25 bags	2
(2) Exceeding 25 bags but not exceeding 125	5
(3) Exceeding 125 bags but not exceeding 250	10
(4) Exceeding 250 bags but not exceeding 500	15
(5) Exceeding 500	15 plus

annas four for each 50 bags or part thereof in excess of 500 bags. For appeal, the fees shall be double the rates fixed in (a) and (b) supra.

If the disputes are in places outside the market yard, the arbitrators can claim travelling allowances as per M.T.A. Rules in vogue for Government servants. The fees are payable in advance by both the parties. The arbitrators, or the umpires or the Disputes sub-committee, as the case may be, are the only persons authorized to decide as to whom and in what proportion such amounts are refundable. Deducting the travelling allowance from the total amount collected as fees, one-third of the net amount is credited to the committee's funds. The balance is equally distributed among the arbitrators. If an umpire is appointed, he gets half of the amount remaining after deducting a third from the total amount to be credited to the committee's fund. The rest is equally divided among the arbitrators.

Regarding market intelligence, it is in the formative period. The committee at first thought of getting the price quotations directly from London. The cost of the service was out of reach of the means of the Committee and the Marketing Advisor to the Government of India was consulted in the matter. By that time the war broke out in Europe and open trading in London was given up. As such, the idea of getting foreign prices had to be given up.

Now the committee has made arrangements with the exporting firms in their area and get their buying limits confidentially and publish the prices offered by them in the market yards for the sake of the public. As regular price data were not available, no market report or bulletin was published in the first year of the committee. In order to keep the Provincial Marketing Officer in touch with the market situation, weekly statements are sent to him. These are made available to the registered traders also; but as the statements are in English, the traders, who are ignorant of the language, do not evince any interest in them. As such.

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the committee proposes to publish a very simple market report in Tamil in course of time.

In purchasing groundnut, generally make certain strict stipulations in the contract forms. The Act has as a provision Rule 19-A which authorizes the committee to draw up just forms of contract and to grade standards of quality. Though the Committee took up this subject with all seriousness, it dropped the matter when it came to know that already the question was engaging the attention of the Marketing Advisor to the Government of India. However, informal discussions were carried on with the local traders and their proposals were communicated to the Provincial Marketing Officer.*

Marketing yard—its working

It is proposed to describe here the actual manner in which the produce is disposed of. We have already seen that besides market yards there are licensed premises. Here let us confine our attention to the manner in which the groundnut brought by the cultivator is sold in the yard attached to the Superintendent of the Market Committee in Cuddalore Old Town.

The transactions that take place in the yard can be classified into two divisions—(1) auction sales and (2) ordinary sales. The market yard plays a prominent part in transactions of the former, while transactions of the latter type are not infrequent. Ordinary sales are conducted at any time, while auction sales are allowed to take place only during stipulated hours.

Let us see at first how an auction sale is conducted. As soon as the cart laden with the produce arrives at the market yard, the cart is unloaded. The load is entered in the register kept for the purpose. The name of the seller, his profession and the approximate quantity by weight are noted therein. The produce is heaped up in mounds on the floor. The heaped up produce is mixed well in order to assure the buyers that the quality is uniform. Unscrupulous sellers place dirt and bad stuff at the bottom of the bag while the top will exhibit pucca goods. To root out such fraudulent methods, the emptying of the bag is advocated. After emptying, each mound is allotted a number.

* See Appendix B For the working of the Committee in 1940.

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Now, word is sent to the traders and the exporting firms. They or their agents arrive at the yard and inspect the quality of the produce. Samples of the lots are taken which are returned later. After consulting their masters, they make a written and signed offer. The offer slips are sealed and sent to the yard and the officer in charge of the yard takes delivery of them after noting the time of their arrival on the envelopes which enclose the slips and drops them into a locked box specially kept for them in the yard. As the auction sales are done on a secret basis, the prices quoted in the slips are kept confidential. Even the superintendent of the yard is not aware of the price quoted in the slips. These slips are accepted till 3 p.m. on each day.

When the clock strikes three, the box is opened in the presence of the superintendent and the slips are taken out. Then the prices quoted in the slips are tabulated showing the highest bidder for each lot. Soon the prices are announced before the sellers, who, if willing, dispose of their produce. The sale is thus effected.

At times, the sellers themselves fix the minimum price for which they will sell the produce. If the price quoted by the buyers were to be below the minimum price of the sellers, the lot is withdrawn from sale.

A sale effected in the above manner is called an auction sale. Besides this, other kinds of sales are in vogue in the market yard. For example, when the seller arrives at the yard after three in the evening and when he is unable to wait till the next day, he readily negotiates with the buyer, if he is found in the yard. When a price is agreed upon the produce is weighed and the sale is effected. Here also the buyer and the seller sign a form kept for this purpose in the market yard.

It is a self-evident fact that the auction system has brought immense benefit to the ryot. Without the least expense of men and money the seller gets the maximum price possible. But the difficulty of reaching the yard still deters the growers from using the market yard to the full. Consequently we notice the prevalence of other kinds of transactions also.

SECTION IX

TRANSPORT CHARGES

A study of the marketing problem will be incomplete without a scrutiny of the railway freights on groundnut from the hinterland to the ports. Though the produce is brought to the ports in country bullock carts and motor lorries, the major portion of it moves from the producing centres to the ports in railway wagons. But it is unfortunate that the reports of the Railway Board have no separate figures for groundnut. They have included it along with other oil-seeds under heavy merchandise. As such there are insurmountable difficulties in finding out the trends in the rail-borne trade from these general figures. The following figures show the trend in the trade from 1934 to 1938.*

<i>Year.</i>	<i>Traffic in Tons.</i>	<i>Earnings in Rupees</i>
1934-35	3,357,500	2,98,47,900
35-36	3,084,400	2,77,46,300
36-37	3,842,100	3,31,48,200
37-38	3,516,200	3,03,68,100

Though the traffic has shown a downward trend at intervals, the total earnings show a steady increase with a fall in 1937-38. The foregoing figures are for the whole of India, but now let us examine the rail-borne trade in the Madras Province. The following figures clearly point to the premier position the groundnut trade occupies among the other oil-seeds. The figures are compiled from the "Southern India Commerce"

*Vide Figures from the Railway Board Reports.

TRANSPORT CHARGES

Monthly and Semi-Monthly Figures for 1939

Figure 1, 1939

Month	Castor seed		Groundnut		Soybean	
	Import	Export	Import	Export	Import	Export
January	155	11	752	131	100	
February	1248	Nu	7113	12155	2632	1
March	1510	12	5222	3554	1401	1
April	1144	18	2784	4017	1170	9
May	1178	14	108	7715	571	9
June	755	13	3513	2146	638	Nu
July	389	6	2114	2206	600	9
August	416		878	2255	743	1
September	1577	5287	53	907	1326	16
October	2564	155	71	971	2116	2
November	1109	5	4775	931	1433	32
December	227	103	6520	15124	2770	80
	12493	5809	31895	55200	18182	159

Traffic in 1939

January	2319	90	1853	2494	1053	17
February	3704	109	1720	7322	3659	77
March	5414	134	2217	69250	3272	74
April	4795	131	2132	35707	1427	3
May	2202	82	1530	8318	859	7
June	4302	12	712	3559	517	2
July	123	.	303		538	1

From the above figures it can be said that in 1939, for which complete figures are available the imports of groundnut into this province

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was 2.5 times that of castor and 1.75 times that of gingelly. On the export side, we see that, in comparison with groundnut, castor and gingelly pale into insignificance. Castor forms only a tenth of the quantity of groundnut exports, while gingelly forms only 0.3%.

As groundnut producing areas are mainly found in the metre gauge tract, the traffic on these lines is the heaviest. "The total freight on the broad gauge amounted to 1,01,400 tons; on the metre gauge it was 2,46,300 and on the narrow gauge it was only 9,600 tons."

Regarding railway risk, groundnut has been classified and placed in the fourth class, the maximum and minimum for that class being 0.62 and 0.166 pie per maund per mile. But when the produce is carried in wagon loads of not less than 300 maunds in the broad gauge and not less than 160 maunds in the metre and narrow gauges, it is classified as 2A. at railway risk and 2 at owner's risk. The maxima and minima are 0.46, 0.42 and 0.109 pie per maund per mile respectively. In the South Indian Railway even when the produce is offered in bulk for transport, it is classified in the fourth class. Though it falls heavily on the producer, it has been contended that the producer could successfully bear the burden since this presidency is the premier producing centre for groundnuts. On the other hand it can be argued that by a reduced rate not only can the pride of the place be retained but also the economic prospects of the tract enhanced.

In South Arcot and the adjoining districts, the produce is sent to the ports by rail at railway and not at the owner's risk. If it is contrariwise, the rates will be lowered and thus confer a boon on the "producer-shipper". Scheduled rates are non-existent in the South Indian Railway. Though station-to-station rates are quoted, scheduled rates will in fact bring great benefits. For stations where station-to-station rates are not applicable, ordinary class rates are levied which are higher than those in the general classification. As such, a small trader from a station of secondary importance has to bear heavy rates if he wants to hook his produce to any other station or port.

The station-to-station rates are a common feature in the S I R. Since South Arcot stands foremost in the production of groundnut, rates are quoted from and to places in the district. Cuddalore commands the major portion of groundnut export trade and, as such, rates are quoted from other stations to Cuddalore.

TRANSPORT CHARGES

The following are a few station-to-station rates in the S.I.Railway.

Conditions of carriage	From	To	Rates per maund.	Remarks.
W 150	Anamalai Road	Cuddalore Jn	0-12-3	
O.R.L.	(via Dindigul)	Madras Beach		
do.	do		0-10-3	
do	Arni Road	Cuddalore	0-4-10	
do	do	Madras Beach	0-5-0	
do	Panruti	Cuddalore	0-1-2	Includes reduced
do	Polur	Cuddalore	0-1-10	terminal charge
W 300				of 11 pies per
O.R.L.	Karur	Cuddalore	0-8-4	maund free of
W 160				short distance
O.R.L.	Cuddalore	Cuddalore	0-2-0	charge.
do	Vandanaichalam	Cuddalore	0-1-8	Rate as such
				distance charge

In the above table all the rates are at owner's risk, while the class rate alone is at the railway risk. Excepting Karur to Cuddalore, in all the other cases the wagon specification is 160 maunds and the requirement is that the loading and unloading is to be done by the public and not by the railways.

Let us now take a few rates for detailed investigation. The station-to-station rate from Anamalai Road to Madras as well as for Cuddalore is the same. Regarding Arni to Cuddalore the special rate is 0-4-10 per maund per mile, while the class rate comes to 0-5-3. The special rate from Arni to Madras, the distance of which is twice the distance from Arni to Cuddalore, is 0-5-0. In the class rate it comes to about 0-11-0 per maund per mile. The two examples clearly indicate that the railway authorities intend to minimise competition in exports between the ports.

Apart from these rates, periodically new rates are put into force, and these are withdrawn after a certain period. A few rates are given for comparison on page 80**:

*Figures are compiled from IB—SIR Goods Tariff

**Vide "Road-Rail Transport" by S. R. N. Bhadani Rao pp 186-87

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Conditions.	From	To	Rate per maund	Date of introduction
W/300 O.R.L.	Omalur	Cuddalore	0-7-6	20-12-1937.
W/160 O.R.L.	Pennadum	Cuddalore	0-2-5	
do.	Vellore Cantone- ment	Cuddalore	0-5-3	
do.	do.	Pondicherry	0-5-3	
do.	Krishnagiri	Cuddalore	0-7-4	these rates were with- drawn as per local
do.	Morappur Jn.	Cuddalore	0-8-0	rate advice No. 5 of 1938.

These rates are quoted to meet the exigencies of particular situations or to help the movement of traffic in bulk.

While the foregoing rates apply to local booking, station-to-station rates are quoted for through traffic. There are three such items in Part IB of the South Indian Railway Goods Tariff. They are as follows:—

Item No.	From	To	Rate per maund
W/300	O.R.L.	Dasampatti	Madras Via
			Jalarpet.
			Rs. As. Ps.
			0 6 11
W/160	O.R.L.	Dharmapuri	„
		Krishnagiri	„
			0 8 8
			0 7 0
W/300	O.R.L.	Samalpatti	„
		Tirupattur	„
			0 6 11
			0 6 0

Groundnut oil is classified in the "C" division under oil together with gingelly and castor oil (not otherwise stated). The rate at railway risk according to class 2A. is 0.46 pie and at owner's risk is 0.42 pie per maund per mile. For safety in transport, the railway authorities insist on packing in metallic cases. Like groundnuts, the oil too has

TRANSPORT CHARGES

station-to-station rates. The requirements regarding handling are the same as in the case of groundnut.

For groundnut oil too there are rates quoted for through traffic. The rate per maund on oil booked from Pollachi to Sialmar is Rs. 1-6-0. The specification is that it should be packed in uns. sound wooden barrels or in sound iron drums.

These freight rates are high when compared with the prices. For example, the rate from Pollachi to Madras, Negapatam or Pondicherry is the same rate of 10 annas per maund. "Comparing the freight rate with the price per maund, the former forms 14 per cent at current prices. These rates refer to local bookings only, but when through bookings are considered the percentage will be higher." Taking the class rate from Pollachi to Madras which is Re. 1-1-11 and comparing it with the highest February price, the incidence will come as high as 27½%. Though such a comparison is not right when station-to-station rate is available, it has to be taken; for station-to-station rate is allowed only on certain specific conditions. The station-to-station rate is allowed only in cases when the consignment equals minimum wagon load. So smaller consignments are subjected to the class rate. Moreover, the present surcharge of 12½% on all goods traffic *ipso facto* increases the burden. "It is wrong to charge staple commodities which yield the largest returns more than what they can bear, and it is an injustice to increase the rates."* The Acworth Committee even, as early as the third decade of this century, has criticized the surcharge. The Railway Member launched the surcharge on the ground that railway earnings were going down. But this argument falls to the ground when viewed from the economic stand point. To enhance earnings, the feasible method is to lower the rate. Low freight rates will yield increased railway revenues. The surcharge is a bane on the regular trade.

* "Road-Rail Transport," See Introduction by Dr. B. V. Narayanaswamy, page xxix

SECTION X

EXPORT TRADE

While taking stock of the available supplies of a commodity, it is necessary to look to Production first; but the imports of the commodity have to be taken into account where they form a considerable bulk of the total quantity. In the case of groundnut, this problem is almost non-existent as the import of groundnut is extremely small. The absence of any mention of import trade of groundnut in the Review of the Trade of India is sufficient proof of the negligible quantity of the produce that comes in annually. But some idea of the same can be had from the Seaborne Trade of India and the following table shows the quantity and value of the imported produce for a few years.

Imports of Groundnut

Year	Quantity Tons.	Value Rs.
1909-10	159	
1913-14		
1922-23	2	872
1923-24	15	3,453
1924-25	103	28,799
1925-26	53	7,513
1926-27	18	5,226
1927-28	60	
1928-29	61	
1929-30	132	
1930-31	30	

EXPORT TRADE

Year	Quantity Tons.	Value. Rs.
1931-32	66	13,765
1932-33	5	1,891
1933-34	1	1,012
1934-35	9	1,764
1935-36	1	683
1936-37*	15	1,981
1937-38*	209	29,670
1938-39*	96	14,229

The imports have thus ranged from 2 and 1 in 1922-23 and 1935-36 to 132 and 209 in 1929-30 and 37-38. The imports mainly come from Ceylon, the Straits Settlements, Mauritius, the Dependencies and a few other foreign countries. The table below will show the details:—

	22-23.	23-24.	24-25.	25-26	26-27	31-32.	32-33.	33-34.	34-35.	35-36.	36-37
Ceylon	. —	11	—	1	—	—	—	—	—	—	—
St. Settlements.	2	4	2	35	18	29	4	1	4	1	—
Burma	.. —	—	—	—	—	—	—	—	—	—	—
Mauritius and Dependencies.	—	—	101	—	—	—	—	—	—	—	—
Other British Possessions	.. —	—	—	1	—	1	1	—	—	—	15
Total British Possessions	.. 2	15	103	37	18	30	5	1	4	1	15
Java	.. —	—	—	—	—	36	—	—	—	—	—
Total foreign countries	.. —	—	—	16	—	—	—	—	5	—	—
Grand Total	. 2	15	103	53	18	66	5	1	9	1	15

* Includes imports from Burma

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In 1937-38 Burma sent in 191 tons and 93 in 38-39. In 1937-38 18 tons were imported from British Possessions other than Burma thus making up a total of 209 and 96 for the two years respectively. The largest single consignment for the first five years for which figures are given above have come from the Straits Settlements and Mauritius and the Dependencies. These small quantities of imported seed are absorbed in the following areas as shown below. Bengal and Burma have been the largest importers.

Shares of Imports between Provinces

	Bengal.	Bombay.	Sind.	Madras.	Burma.
1922-23	—	—	—	—	2
1923-24	—	5	—	6	4
1924-25	101	—	—	—	2
1925-26	8	4	—	1	40
1926-27	—	—	—	—	18

	Bengal.	Bombay.	Sind.	Madras.	Burma.
1931-32	—	36	—	—	30
1932-33	—	—	—	—	5
1933-34	—	—	—	—	1
1934-35	—	5	—	—	4
1935-36	—	—	—	—	1
1936-37	—	13	—	—	2
1937-38	191	—	—	18	—
1938-39	96	—	—	—	—

During all these years groundnut was imported into India only through the British Ports, and the French Ports did not import any.

Exports.

As has been pointed out in a previous section a large portion, sometimes as much as three fourths of the total production, is being retained for consumption within the country. In spite of this dominant tendency for retaining a great part of the total production, India provides nearly two fifths of the groundnut entering international trade.

EXPORT TRADE

An idea of the percentage of exports to total production can be had from the following table compiled from the Review of the Trade of India.

Percentage of Indian Exports of Groundnut to Total Production.

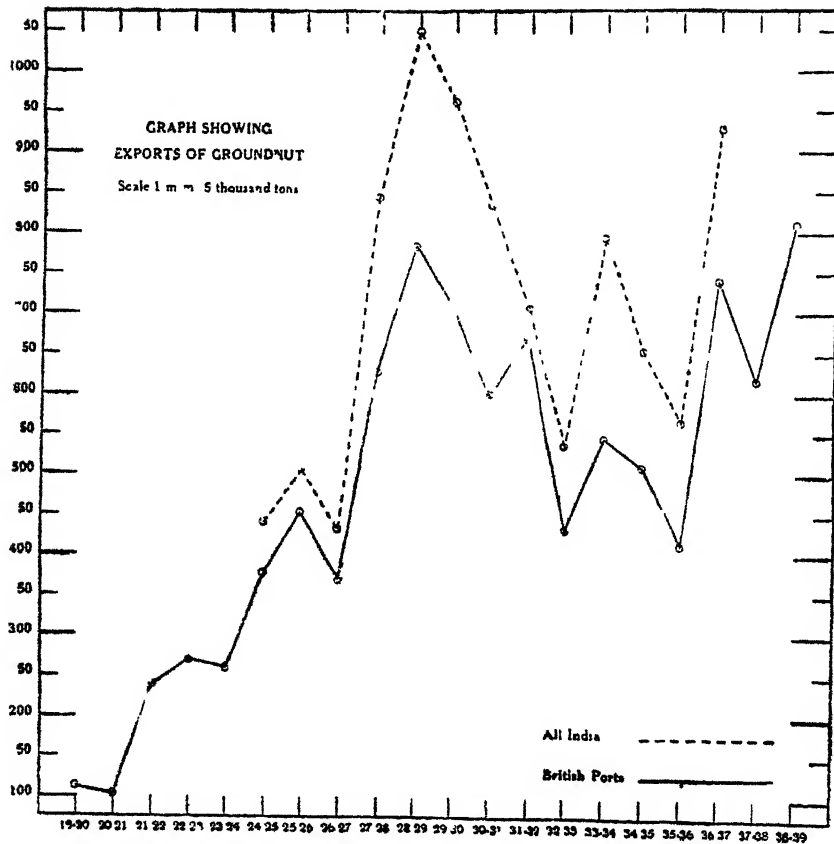
Pre-War Average	35	1928-29	. 23
War "	.. 12	1929-30	. 29
Post War "	.. 19	1930-31	19
1919-20	.. 13	1931-32	. 30
1920-21	.. 10	1932-33	15
1921-22	.. 25	1933-34	.. 17
1922-23	.. 28	1934-35	. 27
1923-24	.. 24	1935-36	.. 19
1924-25	.. 27	1936-37	. 27
1925-26	.. 24	1937-38	18
1926-27	.. 16	1938-39	. 28
1927-28	.. 24		

This table makes possible an interesting observation. When a graph is drawn with the averages for two year periods, we get a curve which shows an up and down wave motion; when the averages are struck for four year periods, the graph obtained represents a clear wave form. Though the number of observations have been small, one can venture to suggest that at the end of the 8th year or thereabout from the year of minimum exports, there is a marked tendency to retain or hold a larger percentage of total production within the country.

Variations in exports have been great even after making due allowance for occasional incomplete and unsatisfactory recording of facts. These can be explained by factors both external and internal. The increased cultivation of groundnut in other lands and their competition with the Indian produce in the export markets, the increased uses to which the raw produce was being put, the demands from new countries as well as the decline in the off-take of some of the customers are some of the external factors causing fluctuations. In a country like India, the influence of exchange rates is an important factor affecting foreign exports. Further, the difficulties of shipping, trade treaties and the rise of new devices checking the natural trend of foreign trade have been seriously impeding the natural growth of the export trade at certain times. It needs to be added that the internal production, consumption and trend of prices mutually interdependent as they are also considerably influence the export trade of the country.

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GRAPH SHOWING EXPORTS OF GROUNDNUT



EXPORT TRADE

A study in detail of the rise and fall of exports of groundnut would enable us to trace the factors that have been influencing the exports from time to time. The total exports from India can be gathered by totalling up the individual exports from the British, French, Portugese (Indian) and Kathiawar ports.* In this task one has to face the lack of material regarding exports of groundnuts from a few of these ports for some years. The figures given below have been made as accurate as possible.

Groundnut Exported from India in thousand tons.

	Exports from Br. Ports.	All Ports.
Pre-war average	212	
War average	119	
Post-war average	195	
1919-20	112	
1920-21	104	
1921-22	236	
1922-23	267	
1923-24	257	
1924-25	376	437
1925-26	455	507
1926-27	368	433
1927-28	613	844
1928-29	788	1052
1929-30	714	957
1930-31	601	836
1931-32	672	709
1932-33	433	536
1933-34	547	797
1934-35	511	659
1935-36	413	565
1936-37	740	927
1937-38	619	—
1938-39	835	—

The table clearly shows the trend towards increase and decrease. From 1924-25, a regular increase is noticeable upto a maximum of nearly

* Vide Appendix Table IX.

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1052 thousand tons in 1928-29 with a slight interruption in 1926-27. Thereafter, there has been a fall which, though gradual at first, reached its lowest level in 1932-33. The fall from 1928-29 has been explained as "purely a result of the general economic depression." "The decrease in 1926-27 has been attributed to the holding of supplies in the hope that prices which were beginning to fall would recover. Falling prices in the year 1932-33 may also account for the magnitude of the drop in exports during that year; while the failure of prices to recover apparently led to the release of large quantities in 1933-34." The figures of British Ports, which alone ship nearly half of the exports, show the same trend prevailing. Indian exports in 1935 were far below that of any year since the maximum in 1928-29. Besides the general cause attributed to the fall since 1929, the decreasing use of groundnut oil in margarine and soap manufacture has also been a cause of the fall in demand for the raw product in foreign countries. The year 1937 is peculiar for the reason that there was an even distribution of the exports of groundnut between the five important countries, all of them viz., United Kingdom, the Netherlands, France, Germany and Italy, took more or less the same quantity of the raw produce, i.e., about 15%. Of these, Italy was the heaviest importer with about 18% of exports to her credit. 1938 was the only year of normal exports before the war began to play havoc on trade. The effect of the present war on the export trade of groundnut will be considered later.

A word about the total value of our exports of groundnut is necessary. The importance of the groundnut crop from the commercial point of view can be gauged from the following table which shows the relative value of groundnut export trade to total exports in millions of rupees. The table has been compiled from "Oil-seeds Survey" of the years 1936, 1937 and 1938, published by the League of Nations.

Table showing Relative Value of Groundnut Exports to Total Exports (Millions of Rupees).

Year.	All Domestic Produce.	Groundnut.	Percentage.
1926-30 (average)	3093	146	4.7
1931-35	1500	74	4.9
1936	1806	95	5.3
1937	2024	108	5.3

EXPORT TRADE

Thus the export value of groundnut trade to total trade has increased from 4.7% to 5.3%; as such, its importance as a commercial crop can be easily appreciated.

Madras being the largest producer of groundnut with as much as 3.8 million acres under cultivation, the exports from Madras Presidency have always been very great. The following table compiled from the notes of the Review of the Trade of India shows the increasing importance gained by Madras in the post-war years.

Exports from the Madras Presidency.

Percentage to total exports.	
1930-31	.. 76
31-32	74
32-33	81
33-34	. 83
34-35	.. 85
35-36	.. 81
36-37	.. 86
37-38	.. 91
38-39	.. 92

With a slight fall in 1935-36, the exports from the ports of the Madras Presidency have been steadily increasing. In 1930-31 Madras claimed three fourths of total exports, while in 1938-39, her exports were more than 9/10 of total exports. The rest of the exports has been made through the ports of the Bombay Presidency, and from being the exporter at one time of nearly a quarter of total exports, Bombay has slowly declined until to-day she shares only one-tenth of the total exports.

The groundnut export trade can also be studied from the point of view of the share of the French and British ports in the export trade. Such a study brings out the fact that the French ports have been gradually declining in importance, while the British have been steadily gaining ground. This point will be borne out by the following figures:—

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Percentage of Exports through French Ports.

1909-10	}	average	..	30
to 1913-14				
1924-25			..	14
25-26				10
26-27			.	15
27-28				12
28-29			..	9
29-30			..	12
30-31			.	10
31-32			..	5
32-33			..	5

The same feature has been noticed in the exports of groundnut between Pondicherry and Cuddalore Ports. Pondicherry has been losing ground. This has been taken advantage of by the Cuddalore and Porto Novo Ports in the South Arcot district. It is noteworthy that merchants from the French territory of Pondicherry come to the Cuddalore port for exporting goods; sometimes they are prepared to bind themselves to pay such new taxes as the Sales Tax. The deflection of trade from Pondicherry can only be explained by the rather complicated new export and port duties levied at French Ports.

With an annual average of nearly 66,000 tons in the pre-war quinquennium and 40,000 tons in the period 1924-28, France has been the main market for the exports from French Ports. Even from the exports of British Ports, French off-take held the first place for many years till Germany outbeat her for the first time in 1927-28 and 1928-29. For the Portuguese Indian Ports, Germany, the Netherlands and Italy were the chief consignees during the years 1927-31 with an annual average of 55,000, 37,000 and 20,000 tons respectively. The Netherlands provided the chief market for the export from Kathiawar ports for a long time; and the United Kingdom came next.

France has always been the most important purchaser of Indian groundnut exported through British ports in the pre-war as well

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as the post-war days. The export figure in the pre-war quinquennium can be roughly put at 170,000 tons per annum, but the average rose during the period 1924-33 from 20,000 tons to 190,000 tons. Expressed as percentages, the Indian imports rose from 40% in 1922 to about 62% in 1933 of the total imports of groundnut into France. The averages indicated in the last column of the following table show how the trend towards increase continued upto 1933. Since then, French imports have been rapidly declining. Expressed in tons, she took only 130,173 and 96 thousand tons in 1935, 36 and 37 respectively as compared to the peak figure of 219 thousand tons in 32-33.

That the French imports of groundnut have been rapidly declining can be well grasped from the following table, compiled from the Review of the Trade of India. She has been importing some quantity of unshelled nuts as well as shelled nuts; the quality of shelled nuts imported has not been very high. It is said, that she sometimes went in for even the 'blacks,' whose presence is objected to, for instance, by the British buyers.

The table reveals how after reaching the maximum in 1925 the unshelled groundnut imported into France has been slowly declining. It can be said that to-day the export of unshelled groundnut is insignificant. Regarding imports of shelled groundnut, the percentage averages for periods of four years show the trend clearly. The increase is visible upto 1933, after which there is a sudden fall from 49.95% to 27%.

Imports of Groundnut into France in 1000 Quintals.

Year.	Unshelled.	Shelled.	Percent- age.	Average for 4-year periods.
1913	325	2442	58	
1914	265	2700	58	
—	—	—	—	
1922	—	1626	40	
1923	—	2315	50	
1924	106	1747	40	
1925	118	1948	40	42.5%

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Year.	Unshelled.	Shelled.	Percent- age.	Average for 4-year periods.
1926	102	2060	42	43·75%
1927	72	1602	35	
1928	33	2680	49	
1929	32	2919	49	
1930	46	2548	41	49·%
1931	41	2462	40	
1932	15	2595	53	
1933	7	3070	62	
1934	—	1527	23	27·25%
1935	—	1736	29	
1936	—	1990	29	
1937	—	1153	28	
1938	—	2113	46	

The reason for this is to be found in the imposition of an import duty in France. There was no such duty on groundnuts imported into France previous to the year 1933; but from 11th August 1933, groundnuts "other than those produced in French Colonies and Protectorates were subjected to a duty of 8 Francs per 100 kilograms if undecorticated and 11 grams per 100 kilograms if decorticated." These duties were further raised in 1934. These and other duties levied in France were meant to subsidise the production of oil-seeds in the French Colonies and Protectorates. The bulk of the imports of groundnut into France is now secured from her Colonies. She has regulated her imports in recent years by the quota system. Since July 1934, she has set apart one half of imports for the produce of her Colonies.

Though France has declined much in importance as an importer of Indian groundnut, still a greater part of our exports go to her. Analysing the distribution of exports from British ports between various countries for the three years, 1935, 1936 and 1937, the following results are secured:—

EXPORT TRADE

*Distribution of Exports through British Ports (in percentages)**

	1935	1936	1937	Average for 3 years.
United Kingdom	22·1	16	15	18
The Netherlands	17·9	26	17	20
France	36·3	29	15	27
Belgium	2·3	4	6	4
Germany	15·1	14	14	14
Italy	2·7	6	18	9
Egypt	0·6	—	10	3
			less than	
Denmark	—	1	·5	·5
Other countries	3·0	4	5	4
Total	100	100	100	

Thus France, the Netherlands and United Kingdom occupy the first three places respectively and together share about 65% of total exports. Germany and Italy come next, sharing more than a fifth and nearly a quarter respectively of the total exports.

The Indian trade in groundnut with the Netherlands has been an instance of remarkable growth. From 150 tons per annum in the pre-war quinquennium her export trade with the Netherlands rose up 40,000 tons in 1925-26 and mounted up consistently till it reached 170,000 tons in 1930-31, which is the maximum she has imported from India during the period under review. A feature of the trade with the Netherlands is that a greater part of the exports to that country are not consumed there itself, but are re-exported.

Trade with United Kingdom also experienced a tremendous increase during the third decade of the 20th century. From about 2000 tons in the pre-war quinquennium, it increased to nearly 5 times in 1925-26. Exports to United Kingdom increased without any interruption up to

* Figures from Sea-borne Trade of India are given in the Appendix: Table X.

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1928-29 when they came to roughly 53,000 tons; with a fall in the next year, it shot up to 78,000 tons in 1931-32. In the next year, there was a precipitous fall by nearly 50% in the exports to U.K. and though there was a recovery in the next two years, in 1935-36 the exports once again fell by about 50% compared to the previous year's maximum of 134,000 tons. Though exports have increased since then, they have not yet attained the level of 1934-35 which was the peak year for the period under review.

There was a marked improvement in the trade between Germany and Italy in the post-war days. Both these countries imported the maximum amount in 1928-29. Since then, there has been a fall and they touched the lowest figure in 1932-33. While German imports have been steadily increasing from 1932-33, Italy's share decreased very much once again in 1935-36. Both the countries imported the maximum quantities in 1937-38. From a study of the imports of groundnut by these two countries one is struck by the similarity of the trends between them.

Trade with Belgium and Spain has been to a great extent curtailed, owing to Belgium's preference for French West African produce and Spain's Official Decrees severely restricting the imports of Groundnut into Spain from 1926.

The export trade of Indian groundnut is mostly after decortication. Though it is well known that the sending of undecorticated nuts would be beneficial to buyers, as it would preserve the quality of the seed, the high freight charges of undecorticated nuts compel the Indian merchants to export only decorticated nuts. It is said that shelled nuts occupy only half the space required by unshelled nuts.

War and Groundnut Trade.

The present war has seriously affected Indian economy on many sides. Indian exports have greatly suffered. While the markets of the belligerents have been almost closed, the serious lack of shipping space has greatly diminished exports even to non-belligerents. Of the many commodities that have suffered because of this war, groundnut is one and it has lost the greatest share of the total value of our exports to European countries.

On the basis of the figures of 1937, it is seen that Italy and Germany have been importing roughly a third of our total exports in groundnut;

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and together with the Netherlands, they occupied 50% of our total exports. Along with France the exports to these four countries amounted to 67% of the total exports. In this connection, we have to note that in the four years previous to the outbreak of the war, the average annual purchases of the Netherlands, France, Germany and Belgium, amounted to 368 thousand tons. In the year immediately preceding the war, they imported from India about 562 thousand tons. The volume of exports from British ports decreased by 50% in the case of the Netherlands and Germany in 1939-40 as compared with 1938-39. Exports to France have declined in the same period from 15,000 to 9,900 tons. In the case of Italy, exports from British ports declined by about 1500 tons. While there has thus been a contraction in the case of Continental countries, there has not been a corresponding increase in the intakings of the United Kingdom. Between 1938-39 and 1939-40, an increase of only 1200 tons is noticeable, an increase not even sufficient to compensate the loss on account of Italy. The loss in value may be estimated from the following figures : *

Value of Groundnut Exports from India to Europe in 1938-39

(Figures in Rs. lakhs.)

Germany	. 134
The Netherlands	. 276
Belgium	. 78
Denmark	.. 27
Norway	.. 12
Sweden	1
France	.. 178
Italy	. 41
Czecho-slovakia	40
Total	.. 787

Thus on the basis of 1938-39, it may seem that India has been deprived of markets that were consuming nearly 8 crores worth of groundnut.

* Taken from the India-Gazette Report

GROUNDNUT

But we have to consider that their intakings in 1938-39 were "more than 50% greater than their average for the previous four years, and in making an estimate of market lost, a corresponding reduction should really be made in the value of figure of Rs. 8 crores given above." Anyhow it cannot be denied that markets that would consume about 5 crores worth of groundnut have been lost at present. It was with a view to finding out how far U.S.A. may be able to absorb the surplus quantities left in India on account of the war, that the Meek Gregory Mission was sent to America. Their findings relating to groundnut may be quoted here:—

"....So far as groundnuts are concerned, the U.S.A. is also a large producer and in recent years the government diversion payment programme has tended to increase the domestic production of both groundnuts and groundnut oil. If the import of groundnuts became large, the whole question would probably come up for examination with possible unfortunate repercussions on India's large trade in Cashew Kernels. The U.S.A. is still capable of a larger domestic production of groundnuts. There does not appear, therefore, to be any large alternative market for this commodity in the U.S.A."

SECTION XI

PRICES

The price statistics of agricultural commodities maintained by the Government is far from satisfactory and this point has been amply illustrated in the various marketing reports. The price statistics supplied by Governments differ from the trade prices. Moreover, we notice different figures are given in different Government reports. Hence great difficulties are encountered in making a detailed study of prices. But in the absence of any organised trading especially in groundnut and the regular maintenance of records by private bodies, we have necessarily to fall back upon Government price statistics as the last resort. In the following pages the prices quoted are taken from the Indian Trade Journal unless otherwise stated.

Before considering the manner in which prices are actually determined in the markets, it would be worth while to study the trend of prices of groundnut. As the quality of nuts produced in different areas is different, a single price for the whole of India becomes chimerical and an impossibility. The two important producing centres are Madras and Bombay of which the former is the more important in as much as 60% of the total Indian production comes out of Madras. Further, it was seen in the last section that exports from Madras have been slowly gaining ground, with 9/10 of total exports in 1938. Under these circumstances the Madras prices need a careful study, as it may be considered not only to represent, but control in a more or less reasonable degree the price fluctuations with regard to groundnut for the whole of India.

The following table gives the average annual prices per French candy of 500 lbs. The manner in which these prices have been calculated may be mentioned. The weekly prices as given in the Indian Trade Journal are taken and the monthly averages calculated. From these monthly prices the annual average prices are derived.

GROUNDNUT

Year.	Price	2 Yr. averages	Year.	Price	2 Yr. averages
	Rs.			Rs.	
1922	63·8		1931	27·6	} .. 31·3
			1932	35·1	
1923	64·9	} .. 64·8	1933	24·9	} .. 22·9
1924	64·7		1934	20·9	
1925	57·3	} .. 54·6	1935	35·7	} .. 35·5
1926	52·0		1936	35·4	
1927	52·8	} .. 53·6	1937	33·2	} .. 28·9
1928	54·4		1938	24·7	
1929	49·5	} .. 42·5	1939	27·6	} .. 27·2
1930	35·6		1940	26·9	

From the second column of the above table wherein the averages for the two-year periods are given, the trend of price changes can be understood. Except in the first three years wherein the prices have been fairly steady, a tendency for prices to fall is recorded from 1925, when it fell from Rs. 64·7 to Rs. 57·3 per candy. Since then, the two-year averages indicate a precipitous fall during the periods 1929 and 1930, 1931 and 1932, and 1933 and 1934. The prices in the last period, i.e., 1933 and 1934, touched the lowest figure of Rs. 20·9 in 1934. In the next year the prices shot up by nearly Rs. 15 and remained stationary about that level in 1936 also. But once again falling prices made their appearance. During the four years from 1937, the lowest figure was recorded in 1938; and though there was a slight recovery in prices in the two succeeding years, the trend of decreasing prices has continued as is evidenced by the figures of two-year averages.

The precipitous fall of prices from 1929 may be explained as the outcome of the depression, as also of the restriction of imports into Germany arising out of her exchange difficulties. The heavy production of whale oil resulting in the decline of the demand of groundnuts, the general increased production of groundnut and other oil-seeds, the decline owing to the competition from cheap butter, in the manufacture of margarine, for which groundnut oil is most useful, and the decline in the demand in Europe for oil-cakes,—all these may be added as subsidiary factors, in addition to the general considerations cited above, as being partly res-

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possible for the steep decline in prices since 1929. It might be interesting to note that it was during this period of declining prices that the exports increased very much. The recent fall in the prices may be explained as being due to the general decline in commodity prices since 1937, to the record production of groundnut in that year and also to the restriction of French imports of Indian groundnut to which reference has already been made in the last section. In our study of groundnuts the monthly changes in prices is as important as the annual average prices. The following table gives the average prices for every month during certain periods. It is possible to infer from such a table whether there is any seasonal fluctuation in prices.

Month		1922-25	1926-29	1930-33	1922-38
January	..	59.0	50.7	31.7	41.9
February	.	60.7	51.8	33.1	43
March	.	64.5	52.0	33.6	44
April	..	64.3	51.7	32.9	43.8
May	..	64.6	53.1	32.1	44.1
June	.	64.3	53.5	30.7	43.7
July	..	64.5	54.0	33.1	44.6
August	.	65.0	53.0	32.0	44.5
September	..	65.2	52.9	29.9	43.9
October	..	64.6	54.2	28.5	43.5
November		61.0	50.1	26.8	41.0
December	..	57.1	49.1	25.5	39.5

The table reveals that there are not very violent seasonal fluctuations, but it would be untrue to deny such fluctuations altogether. The first arresting factor that is visible from the table is the increase in prices from January to March. In some years this increase continues up to May also. Generally, from March to October, though there are fluctuations, the prices are fairly steady. From November onwards there is a definite trend for prices to fall down, a tendency which continues to the next month also. The fall may perhaps be due to the plentiful supplies that come to the market during harvest time.

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The War and its effect on Prices.

The effect of war on the prices of groundnut may be studied, as it would be of some help in understanding the present plight of the cultivators of this crop. The war broke out in September 1939, and the year recorded the maximum off-takings by the Continental countries of nearly 568 thousand lbs. The following table shows the trend of prices month-wise since January, 1939 to February, 1941.

Months		1939	1940	1941
January	.	24.4	29.6	19.6
February	.	24.5	29.7	19.2
March	..	24.3	31.2	
April	..	24.6	33.2	
May	..	27.8	32.4	
June	..	29.7	27.8	
July	..	28.2	23.9	
August	..	29.0	24.1	
September	..	28.3	25.2	
October	..	29.8	24.3	
November	.	30.8	20.9	
December	..	30.1	20.3	

After being steady at about Rs. 24 during the first four months of 1939, the price showed a definite trend towards increase, which, though upset in particular months, continued upto nearly 6 months after the war had broken out, recording a rise of nearly Rs 9 during a period of 16 months. Thereafter there was a fall far steeper than the rise. From Rs 33 in April 1940, it came down to Rs. 20 by the end of the year i.e., within 8 months the prices had declined by about Rs. 13. The fall continued in the present year also coming down as low as Rs. 19.2 in February 1941. The seasonal decline in prices that is generally noticeable in November and December is not to be found in the year in which the war broke out. This feature as well as the increase running up to April 1940 may be explained as due to the heavy purchases in 1939. Part of the increase in prices can be ascribed to the psychological reactions that were visible

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during the first few months of the war and the consequent general increase in prices during the war period. The subsequent fall in prices must be attributed to the war, to the closure of the Continental markets owing to the blockade. The fall of France, and the increase in freight and insurance charges had their effect in pushing down the Madras prices. The lack of shipping space which restricted to a certain extent the usual imports of the non-belligerents, resulted in intensifying the glut in Indian market with consequent undesirable reactions on prices.

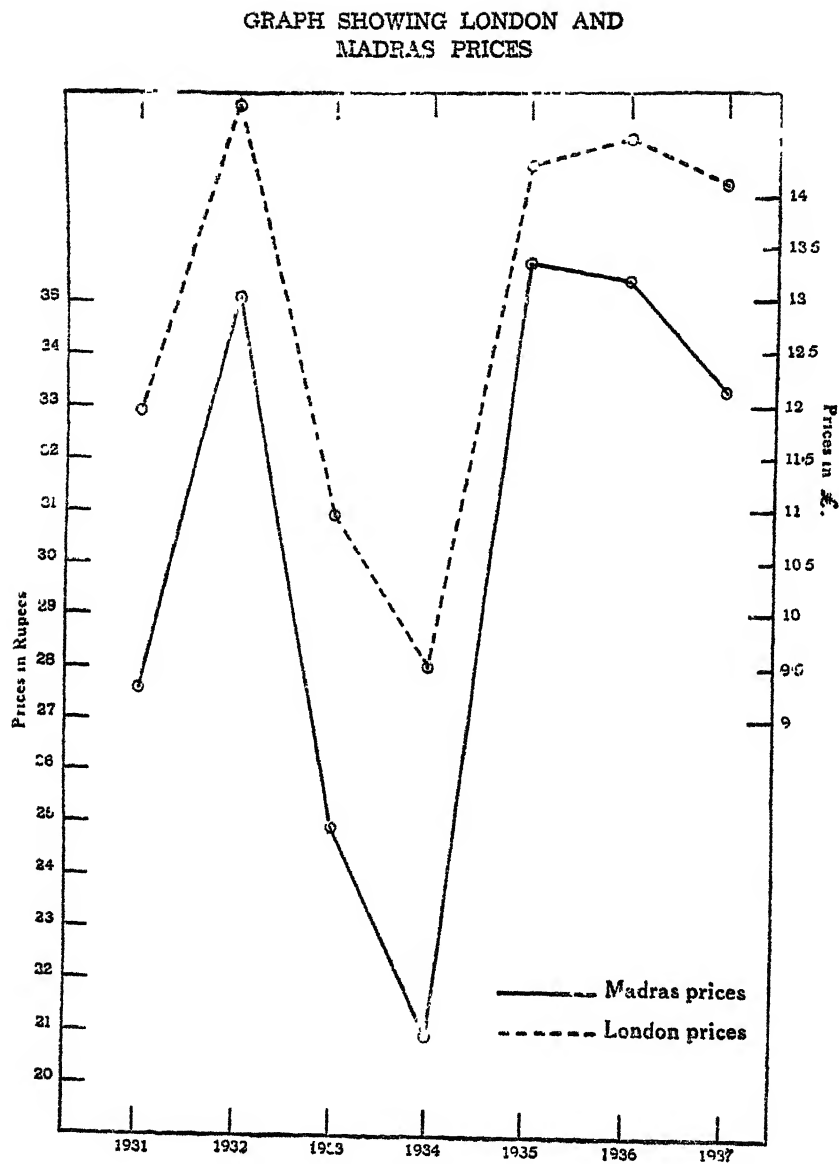
A comparison of Indian prices with those of foreign countries has not been attempted as the data necessary for such a comparison is not available. Neither in the Agricultural Statistics for British India nor in the International Review of Agriculture are prices given for the Continental markets which are our most important customers. As the cake and oil alone are imported by foreign buyers, the little information that is available is related to the products of groundnut and not groundnut seed itself. But as most of the transactions are done under the contracts of the Incorporated Oil-seeds Association, as in the case of linseed, the London prices may be regarded with a fair amount of accuracy as the indicator of the prices in the Continental markets. As such, a comparison with the prices in the United Kingdom may be of some value.

That the Madras prices have been closely following the movements of London prices may be well understood by reading the following extract describing the price movements in London.*

"In 1921 prices were very unsteady, but in subsequent years until 1928, they showed greater stability with a slight downward trend. Thereafter, the decline became more substantial and with an interruption in the latter part of 1931 and the early part of 1932, due to the suspension of the gold standard, continued down to the early part of 1934. The fall which was particularly marked in 1933 continued until March 1934 when prices fell to an average of £8-5-0 per ton, this being about one-half of the average price in March 1932 and the lowest price realised until then for groundnuts in the United Kingdom, since groundnut prices were recorded. The fall in gold prices was even more severe, the average prices in March 1934 representing only 40% of March 1932 level. There was some recovery after March 1934 and by September sterling prices reached £10-15-0 per ton or slightly more than in September 1933."

* Oil-seeds Survey, p. 208.

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The close relationship existing between Madras prices and London prices is also revealed by the following table and the graph on the opposite page.

<i>Year.</i>	<i>London prices in £.</i>	<i>Madras prices in Rs.</i>
1931	11.95	27.6
1932	14.9	35.1
1933	10.95	24.9
1934	9.5	20.9
1935	14.3	35.7
1936	14.55	35.4
1937	14.2	33.2

We may now turn to the manner in which the prices are determined in the Madras and other mofussil markets. But before considering this it is very essential to bear in mind that the whole price structure of groundnut in India is under the firm control of the exporting firms who are the chief buyers. Generally there is very little of competition between them except on rare occasions.

The exporting firms at Madras are informed of the daily price changes and the quantity they should buy by cable from their Home office. The buyers at Madras deduct 5% of the price quotation they receive and from the balance they arrive at they deduct charges for various items such as freight charges, cost of gunnies, shipment, insurance charges; in addition to these a particular percentage is charged again towards establishment. The price secured after making all deductions is then announced. When such an announcement is made the quality also is stipulated. The price quoted by the exporting firms is always for the "pucca" quality. We shall presently see how these firms make the deductions for the "katcha" quality they buy. Before that, the exact way in which price deductions are made by the exporting firms may be noted down.*

* The following calculation has been made on the basis of rates prevailing before the outbreak of the war.

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Let us suppose that the price (per ton) quoted by the exporting firms is equal to	..	£11	0	0
Freight per ton and 5 per cent deduction	..		1	12 6
				<hr/>
Balance	..	£ 9	7	6
				<hr/>

Value of £9-7-6 on that day's exchange rate @ Rs. 13-4-0 per £ = Rs. 130 per ton. Price of one candy = Rs. 31-0-0. From this Rs. 31/- deduct

Cost of gunnies	..	1	0	0
Insurance charges on 3 bags	..	0	6	0
Cost of shipment @ 10 as. per candy	..	0	10	0
				<hr/>
Total	..	2	0	0
				<hr/>
Balance		29	0	0

From this Rs. 29 a certain percentage is kept towards establishment charges. This is how the price is said to be fixed by the shipping firms in Maoras. The sub-agencies in the mofussil are then advised to purchase up to a particular quantity on that price.

The produce that is bought by the sub-agencies is of the katcha quality. Katcha quality means that it is inferior to the quality that is shipped, containing a high percentage of blacks together with dust, touched, shrunk and damaged seeds. It is only when all these are removed and the goods purified, that they come up to a standard suitable for shipment. As already mentioned, the prices quoted by the exporting firms are for the pucca quality and when they buy katcha they are necessarily bound to make deductions for the above mentioned impurities. It is in the strictness with which price deductions are made that the Indian cultivator is hard hit. The following procedure is usually adopted by all the firms in the determination of prices for katcha quality.

As soon as the bags are received by the sub-agencies, they are stored in the store house and only 10% of the number of bags are brought for sample weightment. The bags are weighed with the licensed weighman at Cuddalore because of the stipulations of the Marketing Committee. After deducting the weight of the gunny, the average weight is

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calculated which is taken to represent the weight of each bag for the consignment as a whole. Out of this 10% weighed, half is taken out for sampling, i.e., for finding out the impurity content or 'refraction' as it is called. Each bag is poured out and the expert feels the amount of moisture content and examines if the stuff suffers from bad smell. These are instantaneously recorded in a note book. It is necessary to stress that these are processes over which the seller has got no control and over which the buyer's word is final. Especially in feeling the moisture content there are bound to be large differences of opinion between the buyer and the seller but over which the latter has no voice as the process is purely an estimate made by a paid servant of the firm out of experience, with no chances for verification. When the lot is named and the top of each heap flattened, samples are taken with the "Sample Swoop," one from the centre and four from the sides of the flattened heaps. When all the samples are drawn out they are sent to the analysing laboratory for analysis by the expert. The whole thing is poured on the table mixed well so that even a small quantity taken out of it may be a true specimen of the larger quantity to be bought. The seeds are spread out on the table and the surface made even. Now a small quantity of about a fixed weight of say 1,000 grams is drawn with the help of small scoops. There are certain rules as to how these samples are to be drawn but they differ from firm to firm. The quantity thus obtained is sieved and the powder removed. The sieved nuts are afterwards given to analysing chitals for finding out dirt such as stones, shells, husk, sand and the like. All these impurities go by the name of dirt which is mixed with the powder, all of which are weighed and calculated for 100 grams. Out of the remaining quantity, 100 grams is given once again for analysing chitals for sorting the nuts into damaged, shrivelled, touched, nooks, bits, small seeds, etc. When the analysing process is over, the various items are separately weighed and their weights sent to the inspector. The following illustration of the percentage of impurities will be helpful in understanding how the various items are separately recorded and price deductions made for them

(1) Brown kernels	..	39.6	(5) Small seeds	..	3.9
(2) Nooks	..	4.34	(6) Touched	..	2.87
(3) Bits	..	4.1	(7) Dirt	..	2.24
(4) Damaged	..	4.10	(8) Shrivelled	..	0.64

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The contract form stipulates the percentage of impurities allowable. Deductions in prices will be made as per the clauses of the contract form.

The relationship between the prices of katcha and the pucca qualities as well as the percentages of the pucca prices paid to sellers of katcha goods can be seen from the following two tables.

<i>Months.</i>	<i>Cuddalore, market katcha prices.</i>	<i>Madras prices.</i>
1940.		
June	25 10 6	27 12 0
July	21 12 0	23 15 0
August	20 14 7	24 0 9
September	22 12 7	25 3 2
October	22 5 6	24 5 0
November	18 5 0	20 15 0
December	16 12 0	20 4 0

Average Price for Katcha produce as percentage of Pucca quality.
(Taken for 1st week of certain months of 1940, for a few stations)

	7-9-'40	5-10-'40	2-11-'40.	7-12-'40	4-1-'41.
Cuddalore ..	88	89	89	76	83
Tindivanam ..	96	95	94	89	89
Tirukoilur .	94	94	90	76	83
Villupuram .	97	92	90	81	88
Ulundurpet ..	88	91	90	75	84
Vriddhachalam ..	87	92	92	78	84
Chinna Selam ..	91	95
Panruti ..	92	89

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The table brings out the important fact that the kachha goods receive a low percentage of pucca prices during the month of December. This is explained generally as being due to the bringing of uncleared stuff to the market immediately after the harvest is over. It is possible to infer from the same table that when the ryots take some time to cleanse the produce and then bring it to the market they are better rewarded. The absence of such information for a full year makes it impossible for us to find out the best season for the cultivator to dispose of his produce.

SECTION XII

FINISHED PRODUCTS

It has been shown in the section on export trade that nearly as much as two-thirds of the total production are being retained inside the country while the rest is exported in the form of kernels. Since a substantial portion of the quantity retained is consumed in a raw form, the development of the manufacturing industries of this important raw produce is greatly affected. It may not be an exaggeration to say that oil pressing and other allied industries have scarcely made any headway. The chief among the reasons for this tardy progress are.—Firstly the external demand is for kernels only and this has been the most important factor standing in the way of the development of manufacturing industries. In the south, which is by far the most important groundnut producing area, the use of the oil for edible purposes is greatly limited by the popularity of cocoanut and gingelly oils. The use of the cake also is greatly restricted because of its cost. Still some quantity of oil and cake is being produced in this country and exported as is shown by the following figures.

Export of groundnut oil and cake.

(1000 tons)

				Oil ¹	Cake ²
1930	..	..	..	0·6	172
1931	..	..	..	1·7	182
1932	..	..	..	2·2	184
1933	..	..	..	4·6	159
1934	..	..	..	1·4	190
1935	..	..	..	2·7	262
1936	..	..	..	4·2	194
1937	..	..	..	9·9	..

- 1 Vegetable Oils and Oil-seeds, Imperial Economic Committee, 1938.
2. Statistical Abstract for British India.

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Even in the days of a great slump in prices, the oil industry will be a profitable concern, unless there be a heavy decline in the demand for cake. When crushed, $2\frac{1}{2}$ candies of groundnut will yield one candy of oil and $1\frac{1}{2}$ candies of cake. The cost of crushing in the hand-press comes to about Rs. 10, the total cost amounting to Rs. 60 when groundnut sells at Rs. 20 per candy. One candy of oil and $1\frac{1}{2}$ candies of cake fetch Rs. 48 and 16 respectively leaving a clear profit of Rs. 4. This is the relationship that may be said to be working out to-day. But on ordinary occasions, greater profits can be expected as cake will sell at a better price. Because of the war the export of cake has been much restricted. Further the export of Madras-made expeller-cake to the markets supplied formerly by the interior has caused a glut in the interior market pushing its prices so low as to leave a very low margin of profit for the oil industry. But for the higher price realised through oil, oil extraction would not have been possible today. It may be noted that while oil extracted through an expeller sells at a premium over oil extracted through a press the expeller-cake is valued less than the cake produced by the press, as the latter contains a higher percentage of oil. It may be also noted that whereas the cost of extraction for the expeller comes to about Rs. 8, it costs as much as Rs. 10 for the press. On the whole, extraction through the expeller offers greater profit than extraction with the aid of the press, as may be seen from the working sheet shown below.

	Cost of $2\frac{1}{2}$ candies of nuts	Labour charges	Total cost	Selling price of		Total s.p	Net profit
				Oil	Cake		
	Rs	Rs.	Rs.			Rs	Rs.
Press .	50+	10	60	1 candy =Rs. 48+	$1\frac{1}{2}$ candies cake Rs. 16	64	4
Expeller .	50+	8	58	$1\frac{1}{16}$ candies =Rs. 53+	do. Rs. 11	64	6

Oil is extracted in a variety of ways, from the most antiquated to the most modern. Oil extraction by 'chekku' is the common mode adopt-

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ed in villages all over the country. In towns and urban areas the press as well as the expeller are used. The plates in this book show the chekku, parts of the press and important sections of the expeller. The press requires much manual labour while the expeller is power driven.

While some progress has been made in the direction of improving the extraction of oil to satisfy the local as well as the limited foreign demand, the refining of vegetable oil is scarcely known in India. If oil is to be useful for industrial purposes, refining is very essential.

There are many promising outlets for the manufacture of groundnut oil of all grades. Besides being an illuminant and a lubricant, it is also greatly used in the soap-making and paint industries. If the oil is hardened into a solid or semi-solid state, there will be a large outlet for it in the textile industry as it can replace tallow now used in that industry. It has been recently found out that vegetable oils along with mineral oils make excellent compound lubricants. There is also a new demand for groundnut oil in the manufacture of ghee and butter substitutes. The manufacture of margarine which has not been attempted so far in India offers another scope for an industrial adventure. Refined and deodorised groundnut oil is also used for cooking. It has to be admitted that the use of groundnut oil for soap manufacture is limited as it yields only soft soaps while the case for glycerine extraction offers a lucrative avenue of industrial activity. Next to the cocoanut oil, groundnut oil contains the largest percentage of glycerine. For sometime there was a somewhat crude glycerine plant attached to the Kerala Soap Institute working at full capacity during the last war. But the high cost of evaporating oil and the fall in the price of glycerine in later years sealed the fate of the plant. At present there is a considerable demand for glycerine, and already some premier oil concerns have started working glycerine plants for the extraction of crude as well as the distilled qualities. The Tata Oil Mills in Cochin have succeeded in the operation of their glycerine plant and it is said that they are contemplating some expansion. In Mysore also the Government Soap factory has established one. The wide scope that this industry offers seems to have been fully understood in Calcutta where there is a perceptibly brisk activity in starting new ventures. Full advantage may be taken of the fact that cordite factories with their demand for this product would be regular customers.

Medically vitaminized groundnut oil containing vitamins A and D is recommended as a substitute for cod-liver oil.

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The use of groundnut meal with oil content of 5 to 8 per cent has been advocated as a substitute for wheat flour in the manufacture of bread and biscuits. Of all the known oil-cakes the groundnut cake serves as an excellent cattle food as it contains the highest amount of proteins. Moreover these proteins are more easily digested than those of other cakes. The cakes from non-decoricated nuts contain 5.35 per cent of Nitrogen and 0.8 per cent of phosphoric acid. Cakes from de-corticated nuts contain 7.9 per cent of nitrogen and 1.35 per cent of phosphoric acid. The cakes from damaged and mouldy nuts are used as manure.

From the husk of the groundnut can be prepared Furfuraldehyde, which is utilized in the synthesis of carbohydrates. Besides, the carbonized husk may be used in the manufacture of activated carbon.

In view of these uses to which the groundnut products can be put, is it not pertinent to ask why the oil and allied industries should not be started especially at a time when the "surplus commodity" makes the raw produce available at a cheap rate?

SECTION XIII

CONCLUSION

The effect of the present war on the Indian groundnut trade has been dealt with at some length in the sections on export trade and prices. It was shown how the Continental markets have a major share in the export trade of Indian groundnut and how in the year in which the war broke out, there was an extraordinary demand in the off-takings of Continental countries. These together with other causes resulted in an increase in prices in the first few months of the war. The aim of the present section is to examine the effects of all these factors and to assess the usefulness and practicability of the schemes that have been suggested to solve the difficulties caused to the trade.

With the expansion of the trade in 1938-39 and the increase in prices running up to the first quarter of the next year, the impact of the war on groundnut trade was great enough to exercise some influence in the cultivation of the next year's crop. In Madras alone the area under cultivation of groundnut increased from 2,863,200 acres to 3,142,000 acres for 1940, according to the latest forecast issued by the Government of Madras. In the natural course of events, the increased production of the crop should have gone to all the markets that were importing groundnut in the previous year; but the tightening of the blockade, the fall of France, the lack of shipping space and many other facts, which need no repetition, all changed the complexion of the war so much, that the trade was threatened with serious repercussions. The decline in the foreign demand resulted in pushing prices down; and this tendency was greatly accelerated by the anxiety of those merchants, who had stored some goods in expectation of better prices, to dispose of the stock and thereby prevent themselves from utter ruin. Prices began to swing down; and from Rs. 33 in May it descended by steep gradations to Rs. 20 in November and December when the heavy production of the increased acreage made itself felt. Thus one disaster following close on the heels of another, resulted in a serious glut in the Indian market, tending to force prices down to the rock bottom level of Rs. 20 in December, 1940. Exporting firms felt the serious shrinkage in markets and lack of sufficient shipping space; merchants found the demand quite unattrac-

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ive; and the cultivators had to face the difficulty of securing prices that would compensate the cost of cultivation, for while the cost of cultivation was Rs. 20 for even an unirrigated crop, they received a price of about Rs. 16 only incurring a loss of about Rs. 4 per acre.

This serious situation could have been averted to some extent if groundnut could be stored in suitable warehouses. But groundnut cannot be stored for a long time in kernels without serious loss to quality and quantity; and secondly there was no warehousing system worth the name.

It was under such circumstances that the Government of India became conscious of the seriousness of the situation and tried their best to avert the catastrophe. Quickly realising the situation, they sought the help of the various Chambers of Commerce in the country with a view to devising possible remedial measures to deal with the problem of 'surplus commodities.' The Economic Adviser to the Government of India also toured important producing centres with a view to getting first-hand knowledge of the situation.

Dr T. E. Gregory, the Economic Adviser, came to the conclusion that the remedy equal to the malady was the adoption of a policy of restricting the cultivation of groundnut crop; but even if the scheme had been put into force, it would have required all the power in the hands of the Government to push it through and, even then, success would have been doubtful.

The Indian agriculturist is strongly conservative in outlook with no desire to deviate from the methods and vocations handed down to him by generations of his fore-fathers and unwilling at the risk of some loss to break open new ground. That this is not an exaggeration may be understood from his hesitation to benefit even by the advanced methods of cultivation and manuring propaganda of the agricultural department. Any attempt to make him change his ways in preference to modern methods, is foredoomed to failure.

Again it is not all cultivators that could abandon the crop. Even in the small survey conducted by us we came across a number of agriculturists with a very small acreage devoted to the cultivation of groundnut. For them life was dependent on its cultivation. A just scheme of restrictionism should have provided for exemption of such people and

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if exemptions are granted on the various scores of financial inability, soil and climatic conditions and other factors enumerated above, the scheme will defeat its own aim.

There was again the possibility that agriculturists would not respect the scheme. For aiming as it does at an increase in prices, if the restriction scheme had been successful, the increased price would itself be a temptation for the illiterate agriculturist to take to groundnut. Under such circumstances unless the scheme is enforced with penal measures, its success is highly problematical; but penal measures are not advisable.

The Delhi conference wherein the representatives of the Government of India and those of the Governments of Madras, Bombay and Hyderabad, met to consider the groundnut situation and device suitable remedies for the difficulties, happily came to the conclusion that it was not practicable to enforce the restriction of output by compulsion, although it favoured the policy of carrying on propaganda directed towards such restriction. The conference was of the view that the low prices prevalent would themselves act as an effective deterrent. Though the Delhi conference did not approve of the direct policy of restrictionism, the Government evolved a modest but careful plan of restrictionism which suffers in a greater or lesser measure from all the defects and difficulties of the original proposal. This new proposal was the outcome of an anomalous situation that arise in the meantime.

In view of the fact that a greater number of foreign markets had been shut out on account of the war, and out of sympathy with the demands of the Indian groundnut trade, it was decided that the British Ministry should undertake to buy substantial quantities of the supplies available in the market at a certain minimum price either as oil or as kernels or as unshelled seeds. The Government of India were able to fix the minimum price at £10 per ton with the Food Ministry from September last and thus were able to satisfy, partially at least, the claims of the Indian groundnut trade. But the purchases made by the Ministry of Food were of such a small quantity, that they did not effectively relieve the glut in the Indian market. With the coming of the new crop, prices went down so low that there was a large difference in the price prevailing in the internal market and the guaranteed price received by the shippers. The 'katcha' quality was sold for about Rs 16 whereas the shipping firms were receiving about Rs 27 for the 'pucca' exported. Even allow-

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ing for the difference in quotation as to quality, a sum of Rs. 3 or 4, still a huge profit is made by the exporting firms. Thus, in spite of the aim of the Food Ministry to help him, the Indian agriculturist has not been benefitted; for if allowances are made for railway freight, handling charges, market dues, decorticating expenses, interest, commission and so on, he ultimately receives only Rs. 12 to Rs. 13 per candy. On the other hand, it was the organised middlemen, viz., exporters who exploited the situation.

The Government of India, which observed this anomalous condition prevailing, thought of a way to get over the awkward situation and put forward a scheme of rebates. It was proposed to collect from snippers selling to the British Ministry of Food at the contract prices, 15s. to 20s. according to the port from which the export was made, and to dispose of the fund so collected amongst the agriculturists. The Government's decision to pay growers was sound on principle; for even if they had insisted upon the exporting firms paying the prices that the Food Ministry had fixed, on account of the fact that the off-takings were only very small compared to total output, "the result would have been in effect nothing but an unfair and fortuitous advantage to a small body of growers over the greater number of their brother producers whose product passed into the market for local consumption."

Even this scheme of subsidy would not be an effective remedy for overproduction, unless it is related to some measure of restriction of cultivation. Hence, it was suggested that the fund made available as rebates, supplemented by contributions from interested Provinces and States should be utilised to compensate such producers as are willing to submit to restriction.

The scheme of subsidy may have the approval of a certain section of cultivators from the broader point of view of benefit to the country; but one cannot feel happy over it. It is our earnest opinion that any policy of restrictionism is quite unsuited to a country like ours where the *per capita* income is lamentably low. The way to prosperity is not by reducing the total production of goods but by devising means of increasing and utilizing them in all possible ways.

There are only two ways out of this problem, the one being the resort to alternate crops and the other the utilisation of the surplus goods internally. There are, however, difficulties in raising alternate crops.

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Apart from the conservatism of the cultivator, the soil itself seems greatly to hinder the growth of alternate crops. Certain soils are fit only for the cultivation of certain crops and such soils cannot be fruitfully turned to other uses. The soil required for the cultivation of groundnut is of such a nature that it is hardly suited to anything except a restricted number of other commercial crops, such as jowar and cotton. In Cuddalore, where many of the cultivators have been willing to change over for Cambodia cotton for a long time past, farmers have expressed the view that the soil has been causing some difficulties.

Even if this difficulty is overcome in suitable ways, it will not improve the situation. For "this is a time when almost all crops are in the same unhappy position of requiring to find a buyer; and it is hard to devise an entirely new crop which can replace an existing crop to any extent whatsoever and fetch a return which is satisfactory. On the other hand, if it is only adjustment of present crops, if groundnut is replaced by millet, or cotton is replaced by tobacco and so on, it would only convert a groundnut problem into a tobacco problem and there can be no effectual relief to the country as a whole."*

Thus the easiest and the best way of utilising surplus commodities is to increase the internal demand. And this can be done either by increasing the consumption of the raw commodity as such or by converting the surplus into manufactured products. The latter is the more desirable course as it would open out a large field of industrial activity and also establish a consumer for the Indian produce near at hand. A failure to solve this problem this way would indicate only a failure to understand the way to national progress. It cannot be denied that India can never see a more opportune moment for developing her industries than the present one. To miss this time is to miss a golden opportunity. The ways in which groundnut could be utilised for other purposes have been dealt with in the section on finished products and hence need not be repeated here.

A few other problems of groundnut trade not solely due to war but greatly responsible for the prosperity of the cultivator as well as for the Indian traders, may be emphasised here. Traders complain that the refraction analysis is strict and there is much dis-

* Southern India Chamber of Commerce reply to Government communication, Dec 1940, p. 342.

CONCLUSION

parity between the percentage of refraction enjoyed by exporting firms in the foreign markets and the percentage allowed to Indian merchants. There is also another cry that while the Bombay agencies or the exporting firms allow a greater percentage of refraction, the agencies in South India do not show the same consideration, and the disparity in the percentage of refraction allowed gives rise to a deflection of trade. Regarding the first disparity, it is said that while the exporting firms enjoy nearly 4% of refraction with the Continental and foreign buyers, they extend only 2% of refraction to Indian traders. Though it cannot be ascertained how far this representation is true, it is needless to stress that the refraction basis needs to be carefully revised in view of a similar disparity known to be prevalent in the linseed trade according to the Marketing Report of Linseed. Further, the contract forms used are so one-sided that they call for the earliest revision. The necessity to carry these reforms are urgent and essential, for it is only when the conditions of the traders are bettered they may be able to pass on any benefit to millions of agriculturists now engaged in the cultivation of the crop.

Even regarding the analysing process itself, various reforms have to be carried out. Much ill-will prevails between the sellers and buyers regarding the honesty of the process carried by the latter. The way out of it consists in entrusting the work to an impartial board. This can be achieved by the Government employing a Marketing Analyst in every centre under the auspices of the Marketing Committee functioning there, and making his decision binding on both parties. If this is not possible the traders of each area may be organised by the Marketing Committee and made to establish a parallel analysing laboratory like the one maintained by the exporting firm so that the samples may be analysed here also. Then they could insist on the buyer accepting the average percentage of the two analyses. This would be a fair method and can be easily achieved by the Marketing Committee. The Marketing Committee should never forget that it is as much their duty to be of service to the traders as they are to the agriculturist, for it is then only, as we said before, that lasting benefit can be conferred on the agriculturist.

It is noteworthy that there are not any Indian exporting firms in Cuddalore. Hence, the foreign exporting firms exercise a monopolistic control. The difficulties of starting an Indian con-

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cern are tremendous; not only has the new concern to face the terrific competition of the established ones, but it has necessarily to be a small one in the beginning and will accordingly be unable to deal directly with the more than 40 countries to which the produce from Cuddalore is exported. To remedy the present situation, we would suggest the starting of a co-operative sellers' organisation, somewhat like the now defunct Central Sales Society, and make the exporting firms accept the society as their agent in that area. In that case, much of the profit now going to the foreign firms in the way of refraction and direct reduction in prices, can be made to reach the poor peasant.

In conclusion, it may be said that the problem of the cultivation, marketing and utilization of groundnut bristles with many difficulties; and these difficulties have been critically accentuated by the war. But it should be conceded that the Commerce Department of the Government of India have been earnestly attempting to bring relief to the cultivator as much as possible. Presiding over the Export Advisory Council on May 14, 1941, the Commerce Member to the Government of India, announced that His Majesty's Government has consented to credit to the Indian Government a fund equivalent to £ 100,000 being the difference between the contract price and the actual price of groundnut during the period from January 12th to the end of April, 1941. However, it may be said that there is need for a more comprehensive plan to offer adequate facilities to growers to introduce alternate crops and enable them to get a fair-price for their produce, to provide improved marketing facilities and lastly to give ample scope for the development of such industries as will help to absorb the raw product

APPENDICES

APPENDIX A

Table I

Estimated Acreage of Groundnut in the Principal Producing Countries *
(Millions of acres)

Countries	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
EMPIRE COUNTRIES														
India	...	2'9	4'0	4'3	5'4	5'7	6'4	5'3	6'8	7'6	5'1	5'1	6'6	8'6
Burma	0'6	0'4	0'5	0'6	0'6	0'6	0'7	0'8
Nigeria	0'6	0'8	...	...	...	...	...	...
Tanganyika	0'065	0'08	0'1	0'1	0'1	0'1	0'1	0'2
FOREIGN COUNTRIES														
China	2'3	...	...	3'8	3'5	3'3	3'4	3'6
Senegal	...	1'2	1'2	1'5	1'2	1'6	1'7	1'5	1'6	1'6	1'6	1'7	1'6	...
United States	...	1'2	1'0	0'8	1'1	1'4	1'1	1'4	1'6	1'4	1'6	1'7	1'7	1'6
Netherlands East Indies..	0'5	0'5	0'5	0'5	0'6	0'5	0'6	0'5	0'5	0'5	0'5	0'4	0'5	0'5
French Sudan	0'2	0'3	'4	0'3	0'4	0'4	0'4	...
Ivory Coast (French)	0'06	0'1	0'01	0'2	0'2	0'3	0'3	...
Belgian Congo	0'3	0'1	0'2	0'2	...	...	...	...
Cameroons (French)	0'1	0'1	0'1	0'1	0'1	0'2	0'2	...
Argentina	...	0'1	0'1	0'1	0'1	0'1	0'1	0'1	0'2	0'2	0'1	0'2	0'2	...
Kwantung	0'09	0'08	0'08	0'08	0'09	0'09	0'09	...
French Equatorial Africa	0'03	0'03	0'03	0'03	0'06	0'08	...	...
Formosa	0'06	0'06	0'06	0'07	0'07	0'07	...	...

* Compiled from "Survey of Oil-seeds and Vegetable oils," Vol. III.

Table II
Area under Groundnut crop cultivated in each Province *

Provinces	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29
Ajmer-Merwara ...	...	...	...	...	...	...	...	...	...
Assam ...	...	...	...	...	...	...	...	...	...
Bengal ...	100	300	500	...	400	400	600	800	500
Bihar and Orissa ...	200	200	200	200	200	200	200	200	300
Bombay and Sind ...	204,675	272,847	329,679	359,404	344,404	595,588	602,408	740,316	999,823
Burma, Upper and lower ...	302,955	305,789	332,477	390,129	461,856	498,587	523,118	540,071	598,870
C. P. and Betar ...	9,624	15,352	18,024	22,934	30,466	59,686	44,020	70,073	103,099
Coorg ...	...	...	...	...	...	...	...	...	...
Delhi ...	...	...	...	...	...	...	...	...	...
Madras ...	1,599,738	1,459,122	1,754,334	1,807,353	1,904,119	2,598,609	2,680,156	3,336,536	3,679,349
N. W. F. Province...	...	...	...	...	...	...	...	...	...
Punjab ...	...	...	...	...	...	...	...	...	...
United Provinces ...	6670	7589	6729	6322	13,018	14410	12,984	12,245	19,558
Total including Manpur Pargana ...	2,123,962	2,061,199	2,441,943	2,586,342	2,754,463	3,767,480	3,863,486	4,700,241	5,401,499

* *Vide* "Agricultural Statistics of India" Vol. I.

Table II—Continued

Provinces	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37
Ajmer-Merwara	...	632	...	...	...	...	...	...
Assam	...	...	...	...	...	...	...	...
Bengal	500	700	300	700	1800	400	3100	2700
Bihar	1200	1200	1200	1200	1200	1200	...	...
Bombay and Sind	1,067,758	999,077	989,224	1,194,639	1,291,776	862,341	891,671	987,046
Burma	570,610	564,523	408,309	521,850	640,188	624,558	660,141	764,600
C. P. and Berar	139,088	147,766	164,333	185,296	194,138	148,561	133,700	148,614
Coorg	...	...	...	...	...	...	...	...
Delhi	...	...	...	...	...	...	...	...
Madras	3,209,315	3,575,157	2,635,427	3,516,679	3,779,365	2,350,934	2,519,965	3,495,023
N. W. F. Province	...	...	...	...	...	...	...	...
Punjab	...	...	...	...	...	...	...	...
United Provinces	23,922	21,399	27,214	47,609	40,424	55,830	87,947	106,945
Orissa	...	...	...	...	...	...	10,207	11,943
Sind	...	...	...	...	...	...	14	10
Total	5,012,393	5,310,454	4,226,008	5,467,973	5,948,891	4,043,824	4,306,745	5,516,881

[N. B. Bihar means Bihar & Orissa in 1930-31-32-33-34 and 35.]

Table III
Acreage under Groundnut in the Madras Presidency
(Compiled from Season and Crop Report)

Year	Anantapur	Cuddapah	Godavari	Krishna	South Arcot	Chingleput
1914-15	262764	160577	57	3356	410123	44541
15-16	159338	100805	44	2667	297035	21929
16-17	299903	201633	182	1440	355854	27516
17-18	168857	62944	114	955	332791	25296
18-19	40765	36106	65	807	303464	23792
19-20	68577	103407	24	1021	335350	22690
20-21	118370	144298	16	2091	438793	32590
21-22	108905	130094	11	2105	386659	25035
22-23	129109	194925	25	12832	384614	25395
23-24	158986	170378	44	13187	372893	30071
24-25	105360	137539	4384	7220	421969	34097
25-26	172498	223598	8300	8070	465954	52129
26-27	255903	251366	5448	8503	396841	50279
27-28	349455	270264	5359	15101	453282	56155
28-29	425439	272134	4730	26556	482978	58611
29-30	211011	163593	3034	30035	455721	62160
30-31	349557	235673	4317	52441	458750	50948
31-32	247702	183390	3264	43755	337745	27725
32-33	343535	264805	3856	70786	335235	33840
33-34	446507	229478	6612	109324	381960	38956
34-35	254055	126276	5414	92131	289794	33601
35-36	180308	117429	11080	102473	374869	41416
36-37	315639	202929	22592	160237	429814	65801
37-38	446448	287336	56136	208231	471274	80848
38-39	318069	184912	36103	162641	425725	71065

Table III—Continued

Year	Ganjam	Vizagapatam	North Arcot	Chittoor	Trichy	Madura	Tinnevely	Tanjore
1914-15	...	32045	22926	30333	97943	67557	311	77501
15-16	...	24533	125671	23011	76014	34025	218	64912
16-17	...	29302	184577	23943	92822	50554	313	74727
17-18	...	27940	178408	27925	95187	53043	528	77781
18-19	...	34405	180165	27799	89243	34602	621	68305
19-20	...	35387	146889	28266	93190	43287	1179	74036
20-21	22216	38155	221705	38068	88176	68643	3003	87092
21-22	20739	43219	208779	3353	90424	45315	2197	81962
22-23	24948	50089	232679	43385	103198	62721	2339	8 743
23-24	23252	59903	213275	49794	89026	48151	2347	83244
24-25	30740	69514	255970	56783	92416	49211	2575	83473
25-26	35088	89507	363845	88312	114702	53015	3909	95096
26-27	37017	91399	363820	108852	94112	49784	3481	90232
27-28	43626	88494	460984	138078	115307	70574	4368	91701
28-29	40714	96317	460772	136861	110971	76894	4641	90643
29-30	49427	112066	443098	120186	118790	91047	4468	91278
30-31	50893	133623	372030	84355	105970	101814	5685	86666
31-32	44218	131025	247034	65405	82558	55540	5247	65568
32-33	52054	117947	305127	106634	85641	92323	7203	67100
33-34	49985	126352	295035	113826	63300	129310	12887	65061
34-35	51034	126307	218659	77646	84723	60995	10347	49610
35-36	5339	170349	275960	96493	114782	64383	8613	55069
36-37	...	183584	348560	141535	116877	87749	10707	62817
37-38	...	205122	439928	201888	133634	161091	22118	68892
38-39	...	220507	402333	174673	133400	140325	(9178	63162

Table III—Continued

Year	Coimbatore	Salem	Guntur	Bellary	Kurnool	Nellore	Rannad	Malabar	South Canara
1914-15	82958	104547	5450	80716	132346	...	...	...	...
15-16	43671	28549	5667	29783	57041	...	...	...	...
16-17	90262	62953	5207	80118	170928	...	...	...	...
17-18	98273	75843	3628	54495	77593	...	...	...	...
18-19	41176	48524	2556	6923	12462	...	...	...	...
19-20	46841	51995	3729	5464	29019	...	...	...	...
20-21	78828	88945	6464	19673	66796	...	...	...	...
21-22	78623	66085	8888	19035	80043	...	...	...	...
22-23	108524	86587	12832	37561	137033	...	...	...	...
23-24	102567	99377	13187	64065	199988	...	...	...	...
24-25	108408	82602	36084	61522	2-9972	...	...	...	...
25-26	138679	130423	61171	107192	350109	...	...	...	...
26-27	125676	93787	77694	180623	357853	...	...	...	...
27-28	143206	143101	137772	279059	423664	...	...	...	...
28-29	171964	156029	221862	315603	478 89	...	...	...	...
29-30	174896	173884	238977	282275	328467	...	...	...	...
30-31	184747	152009	304834	332068	442349	...	46507	2921	2
31-32	126716	82398	205281	237428	396321	13819	37166	2067	4
32-33	166632	128305	318258	340352	614626	7860	49073	1022	9
33-34	200049	151480	352879	416641	480097	12116	58854	1496	5
34-35	134302	72854	184905	158479	279385	16595	33178	1135	11
35-36	125100	97895	208367	109811	316584	6637	34828	898	15
36-37	141988	137820	305838	229899	468195	11242	40895	3393	13
37-38	200573	192792	417567	376724	591918	18141	...	...	...
38-39	189442	161109	313216	247894	410864	— (a)	59563	4930	25

(a) = not available.

Table IV

Percentage of Area under Groundnut to the Total Area Sown * (In Madras Presidency)

	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39
Vizagapatam	4	4	4	4	4	8	8	...	10
Guntur	12	9	13	14	8	9	12	...	13
Kurnool	21	18	28	22	13	15	22	...	19
Bellary	13	9	13	17	6	5	9	...	9
Anantapur	17	13	16	21	14	9	16	...	15
Cuddapah	20	16	24	20	11	10	18	...	16
South Arcot	29	22	22	25	19	24	28	...	28
Chittoor	9	8	13	13	9	11	16	...	19
North Arcot	25	18	21	21	16	19	25	...	29
Salem	8	4	7	9	4	5	7	...	9
Coimbatore	8	6	7	9	6	6	7	...	10
Trichinopoly	7	6	6	6	6	8	8	...	9
Tanjore	6	4	4	4	3	4	4	...	4
Madura	7	4	7	9	5	5	6	...	10
Presidency	9	7	9	9.7	6.3	6.9	9.5	...	10.5

* *Vide* "Season & Crop Report of Madras Province"

Table V
Estimated Production of Groundnut in the Principal producing countries *
 (undecorticated, in millions of tons)

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
India	...	1'4	1'8	1'8	2'4	2'8	2'4	2'5	2'1	2'8	3'1	1'7	2'1	3'2
Burma	0'1	0'1	0'1	0'1	0'1	0'1	0'2
Nigeria	0'1	0'2	0'2	0'2	0'3	0'2	0'4
Gambia	0'07	0'06	0'03	0'06	0'08	0'03	0'05
Tanganyika	0'02	0'03	0'02	0'03	0'02	0'03	0'03
China	2'9	2'6	2'2	3'0
Senegal	...	0'4	0'4	0'5	0'5	0'5	0'5	0'5	0'1	0'4	0'5	0'4	0'5	...
U. S. A.	...	0'3	0'3	0'3	0'4	0'4	0'4	0'3	0'4	0'4	0'4	0'4	0'5	0'5
East Indies	...	0'2	0'2	0'2	0'2	0'2	0'2	0'2	0'1	0'2	0'2	0'2	0'2	...
Argentina	0'1	0'1	0'1	0'1	0'1	0'06	0'05	0'07	0'1	0'09	0'1	0'07

* *Vide* Vegetable oils and oil-seeds, Vol. III.

Table VI
Yield of Groundnut in Provinces *
(in Thousand tons)

	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	
Madras	...	569	740	678	823	744	948	1264	1207	1671	1830
Bombay (including Indian States)	...	151	167	177	287	213	361	549	649	860	1066
Burma	...	102	115	95	110	115	165	165	165	145	160
Hyderabad	...	(a)	(a)	9	16	12	11	21	25	42	63
Total	...	822	1022	959	1236	1084	1185	1999	2046	2718	3119

(a)=not available.

* *Vide* Estimate of Acreage and Yield of Principal crops in British India.

Table VI—Continued
(In Thousand tons)

	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39
BRITISH PROVINCES.										
Bombay	...	426	487	498	579	643	375	418	407	523
C. P. & Berar	(a)	33	45	53	38	35	46	58
Madras	...	1522	1765	1234	1729	1777	920	1202	1657	2059
Orissa	(a)	7
Total Br. Provinces	...	1948	2258	1765	2353	2473	1333	1655	2110	2640
INDIAN STATES.										
Bombay States	...	87	175	173	173	263	156	144	252	348
Hyderabad	...	145	165	213	320	374	224	287	316	476
Mysore	(a)	76	27	28	36	37
Total Indian States	...	232	340	386	493	713	407	459	604	861
Grand Total	...	2180	2592	2151	2846	3186	1740	2114	2714	3501

(a)=not available.

Table VII
Yield per acre of Groundnut in each province * (In lbs.)

	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	
Madras	...	1114	1036	1041	1051	922	1115	1089	1009	1122	1114
Bombay	...	2088	1670	1778	1752	1193	2100	1795	1788	1811	1808
Burma	...	816	850	695	742	661	800	741	707	601	635
Hyderabad (b)	...	(c)	(c)	129	199	132	184	248	184	194	217
Average	...	1161	1076	1002	1052	867	1153	1127	1061	1122	1124

(b)=The low out-turn is due to the crops being sown in dry lands.

(c)=Not available.

* *Vide* "Estimate of Acreage and Yield of Crops," 1928-29.

Table VII --Continued
Yield per acre of Groundnut in each province* (nuts in shell in lbs.)

	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	
PROVINCES & STATES.											
Bombay	...	893	1092	1128	1108	1115	974	1050	924	872	907
C. P. and Berar	(c)	451	545	612	571	585	692	580	603
Coorg
Madras	...	1062	1107	1107	1101	1058	877	1068	1062	990	958
Orissa	(c)	825
Average for British Provinces	...	1020	1104 (e)	1044	1076	1052	888	1045	1021	950 (e)	927
INDIAN STATES.											
Bombay States	...	694	649	748	659	863	534	796	641	763	651
Cochin
Hyderabad (b)	...	525	535	616	641	605	522	607	742	741	791
Mysore	(c)	70	371	335	407	419	429
Travancore
Average Indian States..	...	577	588	669	647 (f)	688	512	623	666	726	706
Average India	...	943	990 (e)	948	965 (f)	941	758	911	912	883	848

(b) = The low out-turn is due to the crop being sown in dry lands.

(c) = Excluding C, P & Berar.

(e) = " " Orissa.

(f) = " " Mysore.

* *Vide* Estimate of Acreage and Yield of Principal Crops in British India, (1938-39).

Table VIII
Warehouses (Progress Statement)

WAREHOUSE.	Date of opening	Co-operative year ending	Quantity of		Value of sale produce	Commission Collected
			Candies	lbs.	Rs.	Rs.
Tirukoilur	...	30-6-1933	828	353	21,227	207
		30-6-1934	647	248	12,283	162
		30-6-1935	1528	154	47,780	384
		30-6-1936	1471	437	46,039	368
		30-6-1937	2371	369	80,563	593
		30-6-1938	1982	375	48,740	496
		30-6-1939	3436	372	76,046	860
		30-9-1939	655	441	16,701	164
		30-6-1933	137	67	3,507	47
		30-6-1934	1509	24	28,180	560
Cuddalore	...	30-6-1935	2610	130	64,975	959
		30-6-1936	2238	104	72,849	831
		30-6-1937	3722	52	1,29,302	1404
		30-6-1938	2038	11	55,594	789
		30-6-1939	999	400	66,074	1071
		30-9-1939	320	328	8,055	118
		30-6-1933	230	149	6,083	58
		30-6-1934	709	303	13,798	181
		30-6-1935	3662	154	1,16,398	976
		30-6-1936	4930	174	1,56,470	1184
Vriddhachalam	...	30-6-1937	5731	217	1,95,795	1345
		30-6-1938	3501	343	84,858	878
		30-6-1939	6196	240	1,41,282	1554
		30-9-1939	740	241	19,317	270
		30-6-1938	334	247	7,678	84
		30-6-1939	4592	395	1,13,662	1407
		30-9-1939	1607	303	40,748	481
		14-12-1932				
		19-11-1936				
Villupuram	...					

The above table clearly recounts to the work done by the Warehouses.

Table IX
Total Exports of Groundnut from all ports in India (In Thousand Tons)

	British Ports	Portuguese	French Ports	Kathiawar Ports	Total Exports
1928-29	788	184	80	...	1052
1929-30	714	146	97	...	957
1930-31	601	165	70	...	836
1931-32	472	90	37	10	709
1932-33	433	48	25	30	536
1933-34	547	172	40	38	797
1934-35	511	34	57	57	659
1935-36	413	58	46	48	565
1936-37	740	58	75	54	927

Table X
Distribution of Exports of Groundnut—Foreign countries

	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39
Maskat Territory & Tracial Oman..	...	...	...	18	53	9	33	27
Other Native States in Arabia ...	40	33	40	32	22	10	24	88
Iraq ...	40	41	62	61	78	119	133	163
French Indo-China ...	...	...	...	...	...	...	25	...
Egypt ...	592	3026	1916	3299	331	293	4572	25641
Tunis ...	...	...	...	...	...	...	143	88
Morocco Fr. Protectorate ...	...	...	...	...	...	...	...	438
French West Africa ...	...	...	...	...	1909	...	...	...
U. S. A. (via) Atlantic coast ...	...	...	1100	28	131	9	1115	5027
„ Pacific coast ...	...	...	...	...	...	...	...	23
Uruguay ...	...	...	...	...	...	...	...	822
Argentine Republic including Atlantic coast of Patagonia ...	...	...	...	...	...	...	...	1000
Other Foreign Countries ...	42	14	34	...	7	40	3	26
Total Foreign Countries ...	591,770	399,061	485,360	368,697	344,796	596,618	507,887	704,671
Total Export* ...	671,973	433,012	546,276	487,293	664,389	650,752	816,253	835,103

Note.—The above figures have been taken from "Sea-borne Trade of India." It should be noted however that there are slight discrepancies in the figures given in the "Sea-borne Trade of India" and in the "Review of Trade of India."

Table X—Continued
Distribution of Exports of Groundnut—Foreign countries

	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39
Sweden	...	4712	...	818	...	...	301	1210
Norway	...	4989	2496	2300	6201	2307	2616	10012
Poland (including Danzig)	1550	...	70	...
Denmark	...	4133	1501	6818	5896	410	5116	22902
Germany	...	121751	48129	97249	65116	71268	107977	115210
Netherlands	...	147192	87474	100855	114813	95161	146455	231676
Belgium	...	4457	8627	13491	13951	9196	43730	65782
France	...	223241	219447	188080	99262	140697	72345	149783
Spain	...	100	...	...	...	4	21	...
Portugal (including Azores & Madeira)	3709	4251	5029	5236
Switzerland	665	400
Italy (including Fiume)	...	80344	28214	72413	54370	17765	111647	34576
Austria	185	...
Czechoslovakia	4722	33272
Greece (including Crete)	...	35	10	268	325	537	157	8
Turkey (Asiatic)	...	7	...	4	5	650	554	10
Syria	...	95	49	182	61	9	249	1039

Table X—Continued
Exports of Groundnut—British Empire

	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39
United Kingdom (including Channel Islands)	...	77,933	31,643	52,821	134,196	62,399	134,930	94,624
Palestine	...	90	1083	4947	2050	...	4313	3752
Aden & Dependencies	...	36	38	37	35	40	41	68
Ceylon (excluding Maldives)	...	523	389	637	626	935	497	700
Burma	5530
Straits settlements	...	193	67	674	3475	287	571	2027
Federated Malay States	132	205	437	503	356
Hong Kong	14	581
Union of South Africa	...	1400	700	950	700	1996	...	877
CANADA :								
(via) Atlantic coast	4	236	702	1470	2359
Pacific coast	45
Newfoundland & Labrador	30	...
British West India Islands (excluding Bahamas)	..	18	17	3	...	4	50	89
British Guiana	10	103
Commonwealth of Australia	672	916	930	400	350
Other British Provinces	...	10	14	39	58	41	36	22
Total British Empire	...	80,203	33,951	60,916	142,497	67,771	142,865	111,483
								130,432

APPENDIX B

Abstract of the Report of the Administration of the South Arcot Groundnut Market Committee, Cuddalore, for the year ending 1940.

A study of the seasonal rainfall is an important factor in the cultivation of the crop. According to the report, the rainfall during the year under review was heavy but not evenly distributed. Scanty showers in summer delayed the preparation of land for cultivation, and a heavy downpour in November and December flooded the fields and also damaged the crop by delaying the harvest. The quantity of blacks showed an increase while the yield per acre declined. Thus an uneven distribution of rain adversely affects not only the production of the crop but the quality of the produce.

In 1940, the area under groundnut in the Madras Presidency is estimated at 3,820,000 acres, indicating an increase of 5.6% over the former year's acreage. During the same period, South Arcot had 375,000 acres under groundnut, which is nearly 9.8% of the total area devoted to this crop in the Presidency. In 1939, this area was 400,100 acres. The 1940 figure shows accordingly a decrease of 6.3%. The year's yield per acre is also said to be only 70% of the normal yield. This lower yield has been attributed to the uncertain climatic conditions of the year under review.

Discussing the position of the trade in the district, it has been observed that out of the total arrivals in all markets in the district which amounted to 64,500 tons of kernels, the exporters purchased 90% and the local press-owners and oil-crushers consumed 7.7%. About 14,000 tons have been estimated to be reserved as seed and the consumption of the nuts as food is nearly 1000 tons. Exports by sea have come to nearly 79,211 tons of kernels while 6,801 tons have moved to Madras and other places through inland traffic. For future sale the ryots have stored 7,000 tons and the exporting firms had on hand 16,806 tons at the close of the year. The figures cannot be taken as accurate, for exact information regarding the retention of the produce in the villages for future sale and for use as seeds, for food or for crushing by local chekkus, etc., is not forthcoming.

APPENDIX

As regards prices, it was seen that in the beginning of 1940, the prices per candy was Rs. 30-3-0 But by the end of January, it fell to Rs 20-3-0 owing to a decrease in demand. There was no change in February and the price went up in March owing to a new but limited demand from exporters and remained at Rs 34-7-0 till the end of April But soon the downward trend set in The closure of foreign markets affected exports seriously and the price went as low as Rs 22-12-0 in August Except for a slight rise in September, the downward trend of the price continued owing to a glut in the market resulting from restricted exports and the arrival of fresh stocks for sale In November and December the price was Rs 19-3-0. Concerning the future of the price of groundnut, the Committee observe:—

“It is practically impossible to forecast with any degree of certainty the future of groundnut prices under the present international situation and the outlook continues to be obscure owing to the closure of Continental markets and the consequent falling off in export demand.”

To increase the number of regulated markets, the Committee recently opened a market yard at Villupuram This brings the number of such markets in the district to six A comparative statement of the total quantity of groundnuts dealt within the market yards is given below :—

Markets	No of premises doing business	Arrivals in 1940		Percentage
		Market Centre (Tons)	Market yard (Tons)	
Cuddalore	21	10,275	495	4.8
Ulundurpet	13	8,800	938	10.7
Vriddhachalam	17	8,950	520	5.8
Tirukoilur	20	7,000	710	10.1
Villupuram	8	19,500	760	4.0
Tindivanam	30	10,000	766	7.7

The arrivals at the market yard were satisfactory; but they would have been better if unhealthy competition from certain interested quarters and the antagonistic attitude of some of the traders could have been

GROUNDNUT

avoided. It is hoped that in subsequent years, the arrivals at the market yards will greatly increase, as the cultivators have already begun to understand the efficacy of the regulated market. .

The petty traders found the license fees to be heavy and made a representation to this effect to the Committee. The licence fees have now been reduced. The following figures show the number of licences and registrations issued by the Market Committee:—

<i>Licences:</i>	1940
Licences [under section 4 (1)]	.. 1614
Weighment	.. 767
Brokers	.. 17
<i>Registrations:</i>	
Buyers and sellers	. 2380
Buyers alone	.. 42
Sellers alone	.. 8
Authorisations issued	.. 928

Malpractices in weights and measures prevail in villages; but it has been found difficult to check them as few who complained came forward with proofs. Whenever excess commissions were levied by the traders and brought to the purview of the Committee, the traders were asked to return the excess amount to the parties concerned. The weighmen were all severely warned when cases of incorrect weighments were found or reported. Many petty traders in the villages who were avoiding registration were found out and compelled to register themselves as traders.

Lastly, the Committee which has the power to revise contract forms under Rule 19 (A), have constituted a sub-committee to study the matter and evolve a suitable contract form. Suggestions from interested parties have been invited. The question is now on the anvil of the Committee.

The Committee hope for better progress in the years to come and they believe that such difficulties as are felt at present in their working are usual to similar services in their initial stages.

APPENDIX C

Questionnaire

1. What is the average yield per acre in different districts of the Presidency for a period of 20 years, i.e., from 1919 to 1940 ?
2. How much of total production of the Presidency is being retained in the villages and for what purposes ?
3. How much of total production is being pressed
 - (1) by Village Chekkus (ghanis),
 - (2) by Presses ;
 - (3) by Expellers.
4. To which foreign markets do our ports export from 1920 ?
5. Is there any import of groundnut into the Presidency from outside areas ? Mention their quantity in respect of years from 1920 onwards.
 - (b) Why is it imported? Give reasons.
 - (c) What happens to this imported quantity?
6. Is any groundnut oil imported ? Why ?
7. Is there any import of cake ? Why ?

Quality.

8. What are the varieties of groundnut grown and in what areas ?
9.
 - (a) Which kind yields maximum oil ?
 - (b) What is the average yield and total production of each variety ?

Prices.

1. Is there any provision for market intelligence ?
2. Record the Port prices and market prices of Cuddalore and Madras from 1919-41

GROUNDNUT

3. Prices of London Market, German, Marseilles and other Continental markets.
4. Get contract forms—fixed and unfixed—from branches of Ralli, Luois Dreyfus, East Asiatic and other exporting firms dealing in groundnut.
5. What is the percentage of refraction prevalent in branch agencies of the same firms in Bombay? If possible give the contract forms
6. What is the percentage of refraction allowed by the Home Office to the buying agencies of the above firms ?
7. What are the reasons you attribute for seasonal variations in prices ?
8. Give an idea of the cost of cultivation of an acre of Groundnut in the important growing centres of this Presidency, viz, South Arcot, North Arcot and Guntur under the following heads for the irrigated as well as rain-fed crops*

Preliminary cultivation

Number of ploughing, at what rate?

Manures and manuring

Number of cart loads of what manure and at what rate ? (including cart hire)

Charges for spreading the manure.

Seed and sowing.

Number of measures of pods at what cost?

Dibbling the seeds at so many coolies at what rate ?

After cultivation

Number of hoeings and weedings, by how many coolies and at what rate ?

APPENDIX

Irrigation

Number of irrigations and cost of each.

N.B.—If Groundnut is sown as a mixed crop, say how much of the cost under each item should be allotted to Groundnut ?

Charges after harvesting

9. Cost of winnowing of a bag of Groundnut or the produce of one acre approximately.
10. *Assembling* : What percentage of total produce of the Presidency brought to the market
 - (a) by cultivators ;
 - (b) by village merchants and money-lenders ;
 - (c) by wholesale dealers ;
 - (d) by crushers' buying agents ,
 - (e) by producers' co-operative societies ;
 - (f) by Marketing Committees.
11. *Markets* : If there are any markets, e.g. shandies, an idea of the market practices and charges collected in various markets under the following heads :—
 - (a) Taxes and tolls ;
 - (b) Commission and brokerage ;
 - (c) Handling charges ;
 - (d) Charges for other services ;
 - (e) Charities ;
 - (f) Quality and weight allowances ,
 - (g) Miscellaneous.
12.
 1. What are the impediments in the way of grading and standardization ?
 2. Is there any discrimination in railway rates so as to favour exports instead of favouring internal consumption ?
 3. What is the effect of storage on quality ?

GROUNDNUT

4. How many crushing establishments exist in this Presidency :—

Chekkus, Presses and Expellers.

5. What is the cost of crushing a unit of Groundnut per each method ?
6. Is there any difference in quality of the oil obtained by the different methods ?
7. What are the uses of the oil ?
8. To which places is this oil exported ?
9. What is the quantity of oil exported from 1920 onwards ?
10. Mention the price of oil from 1920 onwards.
11. Is there any adulteration of the Groundnut oil ?
12. How is it adulterated ?
13. What is the total production of oil ?

Cake.

1. What is the total export of cake ?
 2. What are its uses internally ?
 3. Is there any difference in the price of cake produced by chekkus, and expellers?
 4. If it be so, mention the prices
 5. What is the railway freight for oil and cake ?
13. *Weights and measures.*
What are the weights used ?
Are they checked?

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"Aryasangha", Malabar Hill, Bombay.

Printed and published by G. Srinivasachari, B.A., at G. S. Press, 21, Narasinga-
 puram Street, Mount Road, Madras.